

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-------------------------------------|------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|---------------|---|---------|----------------------------|----------------------------|---|-----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms | PPVT (Adapted) | No depressive symptoms | 358.76 (2.38) | 353.18 (3.78) | 556 | 342 | 28.627 | 30.057 | 5.57 (3.44) | (-1.33, 12.48) | 0.111 | 0.208 | 0.19 | 6.47 (2.70) | (1.04, 11.90) | 0.020 | 0.061 | 0.22 |
| | | Mild depressive symptoms | 363.60 (3.07) | 359.68 (2.90) | 280 | 137 | 28.627 | 30.057 | 3.93 (4.21) | (-4.53, 12.38) | 0.355 | 0.651 | 0.13 | -0.46 (2.50) | (-5.48, 4.56) | 0.855 | 0.875 | -0.02 |
| | | Moderate depressive symptoms | 360.28 (3.46) | 370.97 (4.80) | 136 | 74 | 28.627 | 30.057 | -10.69 (6.22) | (-23.18, 1.80) | 0.092 | 0.185 | -0.36 | -6.48 (4.38) | (-15.29, 2.33) | 0.146 | 0.198 | -0.22 |
| | | Severe depressive symptoms | 365.75 (4.83) | 363.45 (4.83) | 95 | 54 | 28.627 | 30.057 | 2.30 (6.53) | (-10.82, 15.43) | 0.726 | 0.777 | 0.08 | 4.62 (4.92) | (-5.26, 14.51) | 0.351 | 0.564 | 0.15 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | 1.65 (4.97) | (-8.34, 11.64) | 0.742 | 0.856 | 0.05 | 6.93 (3.58) | (-0.26, 14.12) | 0.058 | 0.249 | 0.23 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | 16.27 (7.07) | (2.05, 30.48) | 0.026 | 0.044 | 0.54 | 12.95 (5.86) | (1.17, 24.74) | 0.032 | 0.043 | 0.43 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | 3.27 (6.38) | (-9.56, 16.10) | 0.611 | 0.973 | 0.11 | 1.85 (4.93) | (-8.06, 11.75) | 0.709 | 0.963 | 0.06 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | 14.62 (7.58) | (-0.62, 29.85) | 0.059 | 0.445 | 0.49 | 6.02 (4.80) | (-3.63, 15.67) | 0.216 | 0.655 | 0.20 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | 1.62 (8.40) | (-15.26, 18.51) | 0.848 | 0.848 | 0.05 | -5.09 (6.36) | (-17.87, 7.70) | 0.428 | 0.583 | -0.17 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 28.627 | 30.057 | -13.00 (8.86) | (-30.79, 4.80) | 0.148 | 0.197 | -0.43 | -11.10 (6.54) | (-24.24, 2.03) | 0.095 | 0.141 | -0.37 |
| WJ III Academic Applications | WJ III Academic Applications | No depressive symptoms | 464.09 (1.32) | 460.89 (1.84) | 554 | 342 | 17.157 | 17.318 | 3.20 (1.53) | (0.11, 6.28) | 0.042 | 0.202 | 0.18 | 3.45 (1.42) | (0.59, 6.31) | 0.019 | 0.061 | 0.20 |
| | | Mild depressive symptoms | 462.22 (1.83) | 464.06 (1.67) | 280 | 137 | 17.157 | 17.318 | -1.85 (2.57) | (-7.02, 3.33) | 0.476 | 0.651 | -0.11 | -1.85 (2.71) | (-7.30, 3.61) | 0.499 | 0.749 | -0.11 |
| | | Moderate depressive symptoms | 459.88 (1.85) | 465.01 (2.60) | 136 | 74 | 17.157 | 17.318 | -5.12 (2.71) | (-10.57, 0.32) | 0.064 | 0.185 | -0.30 | -5.06 (2.29) | (-9.67, -0.45) | 0.032 | 0.108 | -0.29 |
| | | Severe depressive symptoms | 464.71 (2.42) | 460.46 (2.97) | 95 | 54 | 17.157 | 17.318 | 4.25 (4.10) | (-3.99, 12.49) | 0.305 | 0.534 | 0.25 | 3.98 (3.88) | (-3.82, 11.79) | 0.310 | 0.564 | 0.23 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | 5.05 (3.04) | (-1.06, 11.15) | 0.103 | 0.190 | 0.29 | 5.30 (3.24) | (-1.22, 11.82) | 0.109 | 0.249 | 0.31 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | 8.32 (2.71) | (2.87, 13.77) | 0.003 | 0.017 | 0.48 | 8.51 (2.40) | (3.69, 13.34) | 0.001 | 0.006 | 0.49 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | -1.05 (3.72) | (-8.53, 6.43) | 0.779 | 0.973 | -0.06 | -0.53 (3.72) | (-8.00, 6.94) | 0.887 | 0.963 | -0.03 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | 3.28 (3.83) | (-4.43, 10.98) | 0.397 | 0.791 | 0.19 | 3.21 (3.51) | (-3.85, 10.27) | 0.365 | 0.655 | 0.19 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | -6.10 (4.67) | (-15.48, 3.28) | 0.197 | 0.329 | -0.35 | -5.83 (4.88) | (-15.64, 3.98) | 0.238 | 0.408 | -0.34 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 17.157 | 17.318 | -9.37 (5.10) | (-19.63, 0.89) | 0.072 | 0.189 | -0.54 | -9.04 (4.57) | (-18.22, 0.13) | 0.053 | 0.139 | -0.52 |
| WJ III Academic Skills | WJ III Academic Skills | No depressive symptoms | 451.27 (1.95) | 449.01 (2.39) | 554 | 339 | 23.487 | 21.965 | 2.26 (2.00) | (-1.77, 6.29) | 0.265 | 0.360 | 0.10 | 2.27 (1.86) | (-1.48, 6.01) | 0.229 | 0.286 | 0.10 |
| | | Mild depressive symptoms | 448.53 (2.40) | 452.27 (2.36) | 279 | 137 | 23.487 | 21.965 | -3.74 (3.14) | (-10.05, 2.58) | 0.240 | 0.606 | -0.17 | -3.14 (3.31) | (-9.79, 3.52) | 0.348 | 0.657 | -0.14 |
| | | Moderate depressive symptoms | 444.43 (3.01) | 451.98 (3.49) | 136 | 74 | 23.487 | 21.965 | -7.55 (4.34) | (-16.27, 1.18) | 0.088 | 0.185 | -0.34 | -8.45 (3.92) | (-16.33, -0.57) | 0.036 | 0.108 | -0.38 |
| | | Severe depressive symptoms | 453.04 (3.26) | 447.26 (3.86) | 95 | 54 | 23.487 | 21.965 | 5.79 (5.75) | (-5.78, 17.35) | 0.320 | 0.534 | 0.26 | 5.46 (5.36) | (-5.31, 16.24) | 0.313 | 0.564 | 0.25 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | 6.00 (3.62) | (-1.29, 13.28) | 0.104 | 0.190 | 0.27 | 5.41 (4.01) | (-2.65, 13.47) | 0.184 | 0.268 | 0.25 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | 9.81 (4.23) | (1.30, 18.32) | 0.025 | 0.044 | 0.45 | 10.72 (3.77) | (3.13, 18.30) | 0.007 | 0.012 | 0.49 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | -3.52 (6.13) | (-15.85, 8.80) | 0.568 | 0.973 | -0.16 | -3.20 (5.91) | (-15.07, 8.68) | 0.591 | 0.963 | -0.15 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | 3.81 (5.59) | (-7.42, 15.04) | 0.498 | 0.791 | 0.17 | 5.31 (5.50) | (-5.74, 16.36) | 0.339 | 0.655 | 0.24 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | -9.52 (6.09) | (-21.75, 2.71) | 0.124 | 0.310 | -0.43 | -8.60 (6.28) | (-21.22, 4.02) | 0.177 | 0.378 | -0.39 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 23.487 | 21.965 | -13.33 (7.90) | (-29.21, 2.55) | 0.098 | 0.189 | -0.61 | -13.91 (7.09) | (-28.16, 0.34) | 0.055 | 0.139 | -0.63 |
| WJ III Applied Problems | WJ III Applied Problems | No depressive symptoms | 455.81 (1.46) | 452.54 (1.68) | 555 | 342 | 20.153 | 20.588 | 3.27 (1.86) | (-0.46, 7.00) | 0.084 | 0.202 | 0.16 | 4.16 (1.67) | (0.81, 7.51) | 0.016 | 0.061 | 0.20 |
| | | Mild depressive symptoms | 454.46 (1.94) | 456.77 (2.38) | 280 | 137 | 20.153 | 20.588 | -2.31 (3.23) | (-8.80, 4.18) | 0.478 | 0.651 | -0.11 | -3.37 (3.09) | (-9.58, 2.84) | 0.281 | 0.657 | -0.16 |
| | | Moderate depressive symptoms | 453.04 (2.63) | 455.21 (2.25) | 136 | 74 | 20.153 | 20.588 | -2.17 (3.33) | (-8.85, 4.52) | 0.517 | 0.517 | -0.11 | -2.07 (2.91) | (-7.92, 3.78) | 0.480 | 0.480 | -0.10 |
| | | | | | | | | | | | | | | | | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--|------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|----------------------------|-------------------------|---------|----------------------------|-------------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size |
| Parent Depressive Symptoms (cont'd) | | | | | | | | | | | | | | | | | | |
| | WJ III Pre-Academic Skills | No depressive symptoms | 448.99 (2.07) | 445.23 (2.52) | 554 | 342 | 24.603 | 23.946 | 3.76 (2.21) | (-0.67, 8.20) | 0.094 | 0.202 | 0.16 | 3.96 (2.07) | (-0.20, 8.12) | 0.062 | 0.115 | 0.17 |
| | | Mild depressive symptoms | 446.03 (2.62) | 450.12 (2.57) | 279 | 137 | 24.603 | 23.946 | -4.09 (3.46) | (-11.04, 2.86) | 0.243 | 0.606 | -0.17 | -3.80 (3.55) | (-10.95, 3.34) | 0.289 | 0.657 | -0.16 |
| | | Moderate depressive symptoms | 442.72 (3.16) | 449.98 (3.28) | 136 | 74 | 24.603 | 23.946 | -7.26 (4.19) | (-15.67, 1.15) | 0.089 | 0.185 | -0.30 | -7.53 (3.79) | (-15.14, 0.09) | 0.052 | 0.112 | -0.31 |
| | | Severe depressive symptoms | 450.98 (3.62) | 445.21 (3.50) | 95 | 54 | 24.603 | 23.946 | 5.77 (5.55) | (-5.39, 16.93) | 0.304 | 0.534 | 0.24 | 5.81 (5.32) | (-4.87, 16.50) | 0.279 | 0.564 | 0.24 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | 7.85 (3.88) | (0.04, 15.66) | 0.049 | 0.190 | 0.33 | 7.76 (4.23) | (-0.73, 16.26) | 0.072 | 0.249 | 0.32 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | 11.02 (3.97) | (3.05, 18.99) | 0.008 | 0.023 | 0.46 | 11.48 (3.62) | (4.21, 18.75) | 0.003 | 0.008 | 0.48 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | -2.01 (5.66) | (-13.38, 9.37) | 0.724 | 0.973 | -0.08 | -1.85 (5.63) | (-13.17, 9.46) | 0.743 | 0.963 | -0.08 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | 3.17 (5.41) | (-7.70, 14.04) | 0.560 | 0.791 | 0.13 | 3.72 (5.23) | (-6.80, 14.24) | 0.480 | 0.655 | 0.16 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | -9.86 (6.13) | (-22.18, 2.47) | 0.114 | 0.310 | -0.41 | -9.62 (6.48) | (-22.65, 3.41) | 0.144 | 0.378 | -0.40 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 24.603 | 23.946 | -13.03 (7.68) | (-28.46, 2.40) | 0.096 | 0.189 | -0.54 | -13.34 (6.97) | (-27.36, 0.68) | 0.062 | 0.139 | -0.56 |
| | WJ III Quantitative Concepts | No depressive symptoms | 462.11 (1.34) | 460.53 (1.70) | 555 | 342 | 17.242 | 17.256 | 1.58 (1.81) | (-2.07, 5.22) | 0.388 | 0.448 | 0.09 | 2.31 (1.57) | (-0.85, 5.47) | 0.148 | 0.221 | 0.13 |
| | | Mild depressive symptoms | 462.54 (1.57) | 461.48 (1.75) | 280 | 137 | 17.242 | 17.256 | 1.06 (2.54) | (-4.04, 6.17) | 0.677 | 0.742 | 0.06 | 0.77 (2.35) | (-3.96, 5.50) | 0.745 | 0.859 | 0.04 |
| | | Moderate depressive symptoms | 459.54 (2.18) | 463.11 (2.28) | 136 | 74 | 17.242 | 17.256 | -3.56 (2.85) | (-9.29, 2.16) | 0.217 | 0.296 | -0.21 | -4.18 (2.93) | (-10.07, 1.71) | 0.160 | 0.200 | -0.24 |
| | | Severe depressive symptoms | 464.80 (2.98) | 459.98 (3.02) | 95 | 54 | 17.242 | 17.256 | 4.82 (4.80) | (-4.83, 14.48) | 0.320 | 0.534 | 0.28 | 3.39 (4.36) | (-5.38, 12.15) | 0.441 | 0.601 | 0.20 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | 0.51 (3.20) | (-5.92, 6.95) | 0.874 | 0.936 | 0.03 | 1.54 (3.22) | (-4.93, 8.02) | 0.634 | 0.634 | 0.09 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | 5.14 (3.01) | (-0.90, 11.18) | 0.093 | 0.108 | 0.30 | 6.49 (2.99) | (0.48, 12.50) | 0.035 | 0.043 | 0.38 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | -3.25 (5.09) | (-13.47, 6.98) | 0.526 | 0.973 | -0.19 | -1.07 (4.62) | (-10.37, 8.22) | 0.817 | 0.963 | -0.06 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | 4.63 (3.92) | (-3.25, 12.51) | 0.243 | 0.791 | 0.27 | 4.95 (3.81) | (-2.72, 12.61) | 0.200 | 0.655 | 0.29 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | -3.76 (5.31) | (-14.42, 6.91) | 0.482 | 0.603 | -0.22 | -2.62 (5.06) | (-12.79, 7.56) | 0.608 | 0.701 | -0.15 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 17.242 | 17.256 | -8.38 (5.89) | (-20.22, 3.45) | 0.161 | 0.197 | -0.49 | -7.57 (5.57) | (-18.76, 3.63) | 0.180 | 0.180 | -0.44 |
| | WJ III Spelling | No depressive symptoms | 455.09 (2.01) | 453.47 (2.81) | 556 | 342 | 25.223 | 24.139 | 1.62 (2.20) | (-2.79, 6.04) | 0.464 | 0.497 | 0.07 | 1.76 (2.02) | (-2.30, 5.82) | 0.389 | 0.389 | 0.07 |
| | | Mild depressive symptoms | 452.32 (2.06) | 456.72 (2.47) | 279 | 137 | 25.223 | 24.139 | -4.40 (3.02) | (-10.48, 1.68) | 0.152 | 0.606 | -0.18 | -3.60 (3.23) | (-10.08, 2.89) | 0.270 | 0.657 | -0.15 |
| | | Moderate depressive symptoms | 449.46 (3.33) | 456.45 (3.16) | 136 | 74 | 25.223 | 24.139 | -6.99 (4.62) | (-16.28, 2.29) | 0.136 | 0.204 | -0.29 | -8.16 (4.38) | (-16.97, 0.65) | 0.068 | 0.114 | -0.34 |
| | | Severe depressive symptoms | 457.26 (3.48) | 454.78 (4.18) | 95 | 54 | 25.223 | 24.139 | 2.48 (5.99) | (-9.56, 14.52) | 0.681 | 0.777 | 0.10 | 2.98 (5.74) | (-8.56, 14.51) | 0.606 | 0.700 | 0.12 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | 6.02 (3.71) | (-1.42, 13.47) | 0.110 | 0.190 | 0.25 | 5.35 (4.09) | (-2.87, 13.58) | 0.197 | 0.268 | 0.22 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | 8.61 (4.08) | (0.41, 16.82) | 0.040 | 0.060 | 0.36 | 9.92 (3.68) | (2.51, 17.32) | 0.010 | 0.016 | 0.41 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | -0.86 (6.11) | (-13.14, 11.42) | 0.889 | 0.977 | -0.04 | -1.22 (5.91) | (-13.10, 10.66) | 0.838 | 0.963 | -0.05 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | 2.59 (5.30) | (-8.06, 13.24) | 0.627 | 0.791 | 0.11 | 4.56 (5.35) | (-6.19, 15.32) | 0.398 | 0.655 | 0.19 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | -6.88 (6.32) | (-19.59, 5.82) | 0.281 | 0.422 | -0.29 | -6.57 (6.72) | (-20.08, 6.94) | 0.333 | 0.500 | -0.27 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 25.223 | 24.139 | -9.47 (7.34) | (-24.23, 5.29) | 0.203 | 0.203 | -0.39 | -11.13 (6.71) | (-24.62, 2.35) | 0.103 | 0.141 | -0.58 |
| | WJ III Word Attack | No depressive symptoms | 470.83 (2.26) | 467.26 (2.98) | 555 | 342 | 30.895 | 30.546 | 3.57 (2.76) | (-1.98, 9.11) | 0.202 | 0.303 | 0.12 | 3.43 (2.76) | (-2.13, 8.99) | 0.221 | 0.286 | 0.11 |
| | | Mild depressive symptoms | 467.40 (3.44) | 474.68 (3.04) | 280 | 136 | 30.895 | 30.546 | -7.28 (5.21) | (-17.75, 3.18) | 0.168 | 0.606 | -0.24 | -6.81 (5.65) | (-18.17, 4.56) | 0.234 | 0.657 | -0.22 |
| | | Moderate depressive symptoms | 462.61 (4.13) | 469.20 (4.50) | 135 | 74 | 30.895 | 30.546 | -6.59 (5.68) | (-18.00, 4.82) | 0.251 | 0.314 | -0.22 | -6.55 (5.19) | (-16.97, 3.88) | 0.213 | 0.228 | -0.21 |
| | | Severe depressive symptoms | 474.09 (4.14) | 462.06 (4.76) | 95 | 54 | 30.895 | 30.546 | 12.03 (7.18) | (-2.41, 26.46) | 0.100 | 0.534 | 0.39 | 11.02 (7.10) | (-3.25, 25.30) | 0.127 | 0.564 | 0.36 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 30.895 | 30.54 | | | | | | | | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--|------------------------------|---|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms (cont'd) | WJ III Math Reasoning | No depressive symptoms | 458.89 (1.33) | 456.49 (1.60) | 555 | 342 | 17.147 | 17.325 | 2.40 (1.74) | (-1.09, 5.90) | 0.174 | 0.289 | 0.14 | 3.22 (1.51) | (0.18, 6.26) | 0.038 | 0.096 | 0.19 |
| | | Mild depressive symptoms | 458.48 (1.68) | 459.04 (1.85) | 280 | 137 | 17.147 | 17.325 | -0.56 (2.70) | (-5.98, 4.86) | 0.837 | 0.837 | -0.03 | -1.24 (2.54) | (-6.34, 3.87) | 0.628 | 0.786 | -0.07 |
| | | Moderate depressive symptoms | 456.25 (2.09) | 459.14 (2.06) | 136 | 74 | 17.147 | 17.325 | -2.88 (2.65) | (-8.21, 2.45) | 0.283 | 0.326 | -0.17 | -3.15 (2.44) | (-8.05, 1.75) | 0.202 | 0.228 | -0.18 |
| | | Severe depressive symptoms | 461.30 (2.86) | 454.85 (2.87) | 95 | 54 | 17.147 | 17.325 | 6.45 (4.48) | (-2.56, 15.46) | 0.157 | 0.534 | 0.37 | 4.85 (4.14) | (-3.46, 13.16) | 0.246 | 0.564 | 0.28 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | 2.96 (3.10) | (-3.28, 9.19) | 0.345 | 0.517 | 0.17 | 4.45 (3.09) | (-1.76, 10.67) | 0.156 | 0.260 | 0.26 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | 5.28 (2.86) | (-0.48, 11.04) | 0.071 | 0.089 | 0.30 | 6.37 (2.66) | (1.03, 11.71) | 0.020 | 0.030 | 0.37 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | -4.05 (4.55) | (-13.18, 5.09) | 0.378 | 0.973 | -0.23 | -1.64 (4.35) | (-10.37, 7.10) | 0.708 | 0.963 | -0.09 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | 2.32 (3.72) | (-5.16, 9.80) | 0.535 | 0.791 | 0.13 | 1.91 (3.35) | (-4.81, 8.64) | 0.570 | 0.712 | 0.11 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | -7.00 (5.23) | (-17.51, 3.50) | 0.186 | 0.329 | -0.40 | -6.09 (5.17) | (-16.49, 4.31) | 0.245 | 0.408 | -0.35 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 17.147 | 17.325 | -9.33 (5.79) | (-20.96, 2.31) | 0.113 | 0.189 | -0.54 | -8.00 (5.33) | (-18.72, 2.72) | 0.140 | 0.161 | -0.46 |
| Child's Pre-Academic Skills | PPVT (Adapted) | Not In lowest quartile | 363.34 (2.08) | 361.27 (2.78) | 893 | 536 | 28.627 | 30.057 | 2.07 (2.79) | (-3.54, 7.68) | 0.462 | 0.904 | 0.07 | 1.15 (1.92) | (-2.71, 5.01) | 0.554 | 0.938 | 0.04 |
| | | In lowest quartile | 350.36 (2.05) | 347.42 (3.33) | 272 | 175 | 28.627 | 30.057 | 2.94 (3.51) | (-4.11, 10.00) | 0.405 | 0.916 | 0.10 | 5.84 (3.02) | (-0.23, 11.91) | 0.059 | 0.441 | 0.19 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 28.627 | 30.057 | -0.87 (4.63) | (-10.17, 8.42) | 0.851 | 0.912 | -0.03 | -4.69 (3.72) | (-12.16, 2.78) | 0.213 | 0.887 | -0.16 |
| | WJ III Academic Applications | Not In lowest quartile | 466.18 (1.15) | 465.04 (1.27) | 892 | 536 | 17.157 | 17.318 | 1.14 (1.22) | (-1.32, 3.60) | 0.357 | 0.904 | 0.07 | 1.15 (1.12) | (-1.10, 3.40) | 0.309 | 0.938 | 0.07 |
| | | In lowest quartile | 452.36 (1.42) | 453.64 (2.28) | 271 | 173 | 17.157 | 17.318 | -1.28 (2.64) | (-6.58, 4.02) | 0.629 | 0.916 | -0.07 | -1.03 (2.43) | (-5.92, 3.86) | 0.673 | 0.881 | -0.06 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 17.157 | 17.318 | 2.42 (2.93) | (-3.48, 8.32) | 0.413 | 0.912 | 0.14 | 2.18 (2.71) | (-3.26, 7.63) | 0.424 | 0.887 | 0.13 |
| | WJ III Academic Skills | Not In lowest quartile | 453.72 (1.54) | 453.39 (1.50) | 891 | 534 | 23.487 | 21.965 | 0.33 (1.55) | (-2.78, 3.44) | 0.831 | 0.904 | 0.02 | 0.13 (1.36) | (-2.61, 2.87) | 0.925 | 0.938 | 0.01 |
| | | In lowest quartile | 436.73 (2.12) | 439.97 (2.96) | 270 | 172 | 23.487 | 21.965 | -3.24 (3.62) | (-10.53, 4.05) | 0.376 | 0.916 | -0.15 | -3.39 (3.51) | (-10.45, 3.67) | 0.339 | 0.881 | -0.15 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 23.487 | 21.965 | 3.57 (4.08) | (-4.62, 11.77) | 0.385 | 0.912 | 0.16 | 3.52 (3.95) | (-4.42, 11.47) | 0.377 | 0.887 | 0.16 |
| | WJ III Applied Problems | Not In lowest quartile | 458.54 (1.32) | 456.92 (1.22) | 892 | 536 | 20.153 | 20.588 | 1.63 (1.39) | (-1.18, 4.43) | 0.249 | 0.904 | 0.08 | 1.75 (1.24) | (-0.74, 4.24) | 0.163 | 0.938 | 0.09 |
| | | In lowest quartile | 443.20 (1.57) | 443.46 (2.02) | 272 | 173 | 20.153 | 20.588 | -0.26 (2.47) | (-5.23, 4.71) | 0.917 | 0.916 | -0.01 | 0.61 (2.23) | (-3.87, 5.10) | 0.784 | 0.881 | 0.03 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 20.153 | 20.588 | 1.89 (2.90) | (-3.94, 7.71) | 0.518 | 0.912 | 0.09 | 1.14 (2.49) | (-3.88, 6.15) | 0.650 | 0.887 | 0.06 |
| | WJ III Calculation | Not In lowest quartile | 464.46 (0.82) | 463.95 (0.84) | 892 | 534 | 17.275 | 16.974 | 0.51 (0.98) | (-1.47, 2.49) | 0.610 | 0.904 | 0.03 | 0.51 (0.92) | (-1.34, 2.35) | 0.584 | 0.938 | 0.03 |
| | | In lowest quartile | 452.72 (1.45) | 454.38 (2.49) | 271 | 174 | 17.275 | 16.974 | -1.66 (2.77) | (-7.22, 3.91) | 0.552 | 0.916 | -0.10 | -2.20 (2.70) | (-7.63, 3.23) | 0.419 | 0.881 | -0.13 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 17.275 | 16.974 | 2.16 (3.09) | (-4.05, 8.38) | 0.487 | 0.912 | 0.13 | 2.71 (3.01) | (-3.34, 8.76) | 0.373 | 0.887 | 0.16 |
| | WJ III Oral Comprehension | Not In lowest quartile | 474.23 (1.26) | 473.23 (0.95) | 893 | 536 | 16.068 | 16.180 | 1.01 (1.00) | (-1.00, 3.01) | 0.317 | 0.904 | 0.06 | 0.50 (0.88) | (-1.27, 2.27) | 0.573 | 0.938 | 0.03 |
| | | In lowest quartile | 467.02 (1.40) | 465.03 (2.35) | 272 | 174 | 16.068 | 16.180 | 1.99 (2.54) | (-3.11, 7.09) | 0.436 | 0.916 | 0.12 | 3.96 (2.05) | (-0.16, 8.08) | 0.059 | 0.441 | 0.24 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 16.068 | 16.180 | -0.98 (3.03) | (-7.07, 5.10) | 0.747 | 0.912 | -0.06 | -3.46 (2.53) | (-8.56, 1.63) | 0.178 | 0.887 | -0.21 |
| | WJ III Passage Comprehension | Not In lowest quartile | 454.71 (1.53) | 453.43 (1.75) | 893 | 536 | 23.909 | 23.869 | 1.28 (1.55) | (-1.83, 4.39) | 0.412 | 0.904 | 0.05 | 1.17 (1.38) | (-1.60, 3.95) | 0.399 | 0.938 | 0.05 |
| | | In lowest quartile | 438.73 (2.24) | 439.96 (3.52) | 271 | 173 | 23.909 | 23.869 | -1.22 (4.10) | (-9.47, 7.02) | 0.766 | 0.916 | -0.05 | -1.01 (3.80) | (-8.65, 6.63) | 0.792 | 0.881 | -0.04 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 23.909 | 23.869 | 2.51 (4.43) | (-6.39, 11.40) | 0.574 | 0.912 | 0.10 | 2.18 (4.04) | (-5.94, 10.30) | 0.591 | 0.887 | 0.09 |
| | WJ III Pre-Academic Skills | Not In lowest quartile | 451.63 (1.75) | 450.75 (1.70) | 891 | 536 | 24.603 | 23.946 | 0.88 (1.79) | (-2.72, 4.47) | 0.626 | 0.904 | 0.04 | 0.79 (1.60) | (-2.42, 4.00) | 0.624 | 0.938 | 0.03 |
| | | In lowest quartile | 433.47 (2.04) | 435.89 (| | | | | | | | | | | | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|----------------------------|-------------------------|---------|----------------------------|-------------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size |
| Special Needs (cont'd) | WJ III Oral Comprehension | Not special needs | 472.56 (1.10) | 471.98 (0.93) | 1008 | 638 | 16.068 | 16.180 | 0.58 (0.75) | (-0.93, 2.10) | 0.442 | 0.967 | 0.04 | 0.76 (0.73) | (-0.71, 2.24) | 0.302 | 0.936 | 0.05 |
| | | Special needs | 472.85 (2.29) | 465.35 (2.78) | 157 | 72 | 16.068 | 16.180 | 7.50 (3.31) | (0.85, 14.15) | 0.028 | 0.133 | 0.46 | 6.19 (3.19) | (-0.22, 12.60) | 0.058 | 0.236 | 0.38 |
| | | Not special needs - special needs | (.) | (.) | . | . | 16.068 | 16.180 | -6.91 (3.35) | (-13.64, -0.18) | 0.044 | 0.132 | -0.43 | -5.43 (3.43) | (-12.32, 1.47) | 0.120 | 0.359 | -0.34 |
| | WJ III Passage Comprehension | Not special needs | 451.91 (1.36) | 451.33 (1.68) | 1008 | 637 | 23.909 | 23.869 | 0.59 (1.40) | (-2.23, 3.41) | 0.677 | 0.967 | 0.02 | 0.54 (1.27) | (-2.02, 3.10) | 0.676 | 0.936 | 0.02 |
| | | Special needs | 445.93 (2.63) | 440.99 (4.68) | 156 | 72 | 23.909 | 23.869 | 4.94 (5.00) | (-5.12, 15.00) | 0.328 | 0.401 | 0.21 | 3.36 (4.95) | (-6.58, 13.30) | 0.500 | 0.743 | 0.14 |
| | | Not special needs - special needs | (.) | (.) | . | . | 23.909 | 23.869 | -4.35 (4.94) | (-14.27, 5.57) | 0.382 | 0.441 | -0.18 | -2.82 (4.92) | (-12.71, 7.07) | 0.569 | 0.665 | -0.12 |
| | WJ III Pre-Academic Skills | Not special needs | 448.09 (1.56) | 448.52 (1.55) | 1006 | 637 | 24.603 | 23.946 | -0.43 (1.62) | (-3.68, 2.82) | 0.792 | 0.967 | -0.02 | -0.35 (1.45) | (-3.27, 2.56) | 0.809 | 0.936 | -0.01 |
| | | Special needs | 443.99 (2.58) | 436.31 (5.37) | 156 | 72 | 24.603 | 23.946 | 7.67 (4.85) | (-2.07, 17.42) | 0.120 | 0.256 | 0.32 | 5.51 (4.68) | (-3.89, 14.91) | 0.244 | 0.523 | 0.23 |
| | | Not special needs - special needs | (.) | (.) | . | . | 24.603 | 23.946 | -8.10 (4.98) | (-18.12, 1.91) | 0.110 | 0.210 | -0.34 | -5.86 (4.83) | (-15.57, 3.84) | 0.230 | 0.432 | -0.24 |
| | WJ III Quantitative Concepts | Not special needs | 462.38 (1.07) | 462.57 (0.93) | 1008 | 636 | 17.242 | 17.256 | -0.19 (1.23) | (-2.66, 2.28) | 0.879 | 0.967 | -0.01 | 0.08 (0.95) | (-1.83, 1.98) | 0.936 | 0.936 | 0.00 |
| | | Special needs | 459.67 (2.20) | 451.70 (3.95) | 156 | 72 | 17.242 | 17.256 | 7.96 (3.69) | (0.55, 15.38) | 0.036 | 0.133 | 0.46 | 6.64 (3.51) | (-0.41, 13.69) | 0.064 | 0.236 | 0.38 |
| | | Not special needs - special needs | (.) | (.) | . | . | 17.242 | 17.256 | -8.15 (3.93) | (-16.05, -0.26) | 0.043 | 0.132 | -0.47 | -6.56 (3.62) | (-13.84, 0.71) | 0.076 | 0.333 | -0.38 |
| | WJ III Spelling | Not special needs | 454.32 (1.40) | 456.17 (1.61) | 1007 | 639 | 25.223 | 24.139 | -1.86 (1.63) | (-5.13, 1.42) | 0.260 | 0.967 | -0.08 | -1.94 (1.44) | (-4.84, 0.96) | 0.185 | 0.936 | -0.08 |
| | | Special needs | 451.22 (2.51) | 445.00 (5.43) | 157 | 72 | 25.223 | 24.139 | 6.22 (4.91) | (-3.65, 16.10) | 0.211 | 0.396 | 0.26 | 4.80 (4.74) | (-4.73, 14.33) | 0.316 | 0.592 | 0.20 |
| | | Not special needs - special needs | (.) | (.) | . | . | 25.223 | 24.139 | -8.08 (4.85) | (-17.82, 1.66) | 0.102 | 0.210 | -0.33 | -6.74 (4.63) | (-16.05, 2.57) | 0.152 | 0.379 | -0.28 |
| | WJ III Word Attack | Not special needs | 469.49 (1.77) | 470.46 (1.89) | 1007 | 635 | 30.895 | 30.546 | -0.97 (2.01) | (-5.00, 3.06) | 0.630 | 0.967 | -0.03 | -1.08 (1.93) | (-4.97, 2.81) | 0.579 | 0.936 | -0.04 |
| | | Special needs | 464.74 (3.30) | 458.46 (7.09) | 156 | 72 | 30.895 | 30.546 | 6.28 (6.62) | (-7.04, 19.60) | 0.348 | 0.401 | 0.21 | 3.88 (6.89) | (-9.97, 17.73) | 0.576 | 0.743 | 0.13 |
| | | Not special needs - special needs | (.) | (.) | . | . | 30.895 | 30.546 | -7.25 (6.82) | (-20.95, 6.45) | 0.292 | 0.438 | -0.24 | -4.96 (7.09) | (-19.20, 9.29) | 0.488 | 0.665 | -0.16 |
| | WJ III Letter-Word Identification | Not special needs | 434.75 (2.45) | 434.37 (2.36) | 1008 | 637 | 36.679 | 35.270 | 0.38 (2.25) | (-4.14, 4.89) | 0.867 | 0.967 | 0.01 | 0.18 (1.93) | (-3.70, 4.06) | 0.926 | 0.936 | 0.01 |
| | | Special needs | 427.01 (3.60) | 421.25 (7.50) | 156 | 72 | 36.679 | 35.270 | 5.76 (6.67) | (-7.65, 19.16) | 0.392 | 0.420 | 0.16 | 2.90 (6.99) | (-11.15, 16.95) | 0.680 | 0.743 | 0.08 |
| | | Not special needs - special needs | (.) | (.) | . | . | 36.679 | 35.270 | -5.38 (7.05) | (-19.56, 8.80) | 0.449 | 0.481 | -0.15 | -2.72 (7.30) | (-17.40, 11.96) | 0.711 | 0.736 | -0.08 |
| | WJ III Writing Sample | Not special needs | 483.50 (0.84) | 483.76 (1.18) | 1008 | 639 | 14.316 | 14.957 | -0.27 (1.12) | (-2.52, 1.98) | 0.811 | 0.967 | -0.02 | -0.32 (1.06) | (-2.45, 1.81) | 0.766 | 0.936 | -0.02 |
| | | Special needs | 480.08 (1.63) | 477.24 (3.00) | 157 | 72 | 14.316 | 14.957 | 2.85 (2.64) | (-2.46, 8.15) | 0.286 | 0.401 | 0.19 | 2.08 (2.45) | (-2.84, 7.00) | 0.400 | 0.666 | 0.14 |
| | | Not special needs - special needs | (.) | (.) | . | . | 14.316 | 14.957 | -3.12 (2.82) | (-8.79, 2.56) | 0.275 | 0.438 | -0.21 | -2.40 (2.60) | (-7.63, 2.83) | 0.361 | 0.602 | -0.16 |
| | WJ III Basic Reading Skills | Not special needs | 452.11 (2.01) | 452.36 (2.00) | 1007 | 635 | 32.288 | 31.435 | -0.25 (2.03) | (-4.32, 3.83) | 0.904 | 0.967 | -0.01 | -0.42 (1.92) | (-4.28, 3.44) | 0.828 | 0.936 | -0.01 |
| | | Special needs | 446.05 (3.28) | 439.90 (7.10) | 155 | 72 | 32.288 | 31.435 | 6.15 (6.38) | (-6.67, 18.97) | 0.340 | 0.401 | 0.20 | 3.45 (6.49) | (-9.60, 16.50) | 0.598 | 0.743 | 0.11 |
| | | Not special needs - special needs | (.) | (.) | . | . | 32.288 | 31.435 | -6.39 (6.69) | (-19.83, 7.05) | 0.344 | 0.441 | -0.20 | -3.87 (6.88) | (-17.70, 9.97) | 0.577 | 0.665 | -0.12 |
| | WJ III Math Reasoning | Not special needs | 458.78 (1.08) | 458.73 (0.88) | 1007 | 637 | 17.147 | 17.325 | 0.05 (1.16) | (-2.28, 2.37) | 0.967 | 0.967 | 0.00 | 0.39 (0.89) | (-1.40, 2.18) | 0.663 | 0.936 | 0.02 |
| | | Special needs | 456.66 (2.22) | 447.17 (4.05) | 157 | 72 | 17.147 | 17.325 | 9.49 (4.04) | (1.37, 17.61) | 0.023 | 0.133 | 0.55 | 7.88 (3.92) | (-0.01, 15.76) | 0.050 | 0.236 | 0.45 |
| | | Not special needs - special needs | (.) | (.) | . | . | 17.147 | 17.325 | -9.44 (4.26) | (-18.00, -0.88) | 0.031 | 0.132 | -0.54 | -7.49 (4.05) | (-15.64, 0.66) | 0.071 | 0.333 | -0.43 |
| Child's Home Language | PPVT (Adapted) | Not English | 339.78 (1.95) | 335.13 (2.67) | 279 | 174 | 28.627 | 30.057 | 4.65 (2.79) | (-0.96, 10.26) | 0.102 | 0.382 | 0.15 | 4.93 (2.70) | (-0.49, 10.36) | 0.073 | 0.449 | 0.16 |
| | | English | 366.63 (1.87) | 364.98 (2.52) | 886 | 537 | 28.627 | 30.057 | 1.65 (2.55) | (-3.47, 6.77) | 0.521 | 0.992 | 0.05 | 1.50 (1.91) | (-2.35, 5.34) | 0.437 | 0.837</td | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | | |
|---------------------------------------|------------------------------|------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|-------------------------|---------------|----------------------------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Child's Home Language (cont'd) | WJ III Math Reasoning | Not English | 456.09 (1.48) | 453.27 (2.05) | 278 | 174 | 17.147 | 17.325 | 2.83 (2.26) | (-1.72, 7.37) | 0.218 | 0.382 | 0.16 | 2.71 (2.16) | (-1.62, 7.04) | 0.215 | 0.449 | 0.16 | |
| | | English | 459.22 (1.29) | 458.76 (1.32) | | 886 | 535 | 17.147 | 17.325 | 0.46 (1.55) | (-2.65, 3.57) | 0.768 | 0.992 | 0.03 | 0.74 (1.17) | (-1.62, 3.09) | 0.534 | 0.837 | 0.04 |
| | | Not English - English | (.) | (.) | | | 17.147 | 17.325 | 2.37 (2.92) | (-3.51, 8.24) | 0.422 | 0.587 | 0.14 | 1.97 (2.52) | (-3.10, 7.04) | 0.438 | 0.597 | 0.11 | |
| Mother's Race/Ethnicity | PPVT (Adapted) | White/Other | 376.46 (3.74) | 369.58 (5.72) | 354 | 244 | 28.627 | 30.057 | 6.88 (3.23) | (-0.38, 13.37) | 0.038 | 0.573 | 0.23 | 6.37 (2.44) | (1.47, 11.26) | 0.012 | 0.177 | 0.21 | |
| | | Black | 356.00 (1.82) | 357.15 (3.64) | 434 | 245 | 28.627 | 30.057 | -1.15 (3.45) | (-8.09, 5.79) | 0.741 | 0.980 | -0.04 | -0.47 (2.89) | (-6.28, 5.34) | 0.872 | 0.970 | -0.02 | |
| | | Hispanic | 348.97 (2.70) | 345.29 (2.65) | 377 | 222 | 28.627 | 30.057 | 3.68 (2.41) | (-1.16, 8.52) | 0.132 | 0.457 | 0.12 | 0.97 (2.17) | (-3.40, 5.33) | 0.659 | 0.925 | 0.03 | |
| | | White/Other - Black | (.) | (.) | | | 28.627 | 30.057 | 8.03 (3.88) | (0.22, 15.83) | 0.044 | 0.658 | 0.27 | 6.83 (3.43) | (-0.06, 13.73) | 0.052 | 0.775 | 0.23 | |
| | | White/Other - Hispanic | (.) | (.) | | | 28.627 | 30.057 | 3.19 (3.82) | (-4.49, 10.88) | 0.408 | 0.953 | 0.11 | 5.40 (3.21) | (-1.05, 11.85) | 0.098 | 0.946 | 0.18 | |
| | | Black - Hispanic | (.) | (.) | | | 28.627 | 30.057 | -4.83 (4.26) | (-13.39, 3.72) | 0.261 | 0.703 | -0.16 | -1.43 (3.60) | (-8.67, 5.81) | 0.692 | 0.970 | -0.05 | |
| | WJ III Academic Applications | White/Other | 464.90 (2.01) | 463.70 (2.40) | 354 | 244 | 17.157 | 17.318 | 1.20 (1.51) | (-1.84, 4.24) | 0.432 | 0.863 | 0.07 | 1.41 (1.30) | (-1.21, 4.03) | 0.284 | 0.898 | 0.08 | |
| | | Black | 461.62 (1.27) | 462.29 (2.06) | 434 | 243 | 17.157 | 17.318 | -0.67 (2.21) | (-5.10, 3.77) | 0.763 | 0.980 | -0.04 | -0.25 (2.03) | (-4.33, 3.82) | 0.901 | 0.970 | -0.01 | |
| | | Hispanic | 462.69 (1.50) | 460.66 (1.39) | 375 | 222 | 17.157 | 17.318 | 2.02 (1.73) | (-1.46, 5.50) | 0.248 | 0.620 | 0.12 | 1.12 (1.57) | (-2.04, 4.27) | 0.480 | 0.925 | 0.06 | |
| | WJ III Academic Skills | White/Other - Black | (.) | (.) | | | 17.157 | 17.318 | 1.87 (2.23) | (-2.61, 6.35) | 0.406 | 0.780 | 0.11 | 1.67 (2.16) | (-2.67, 6.00) | 0.444 | 0.906 | 0.10 | |
| | | White/Other - Hispanic | (.) | (.) | | | 17.157 | 17.318 | -0.82 (2.53) | (-5.91, 4.26) | 0.746 | 0.953 | -0.05 | 0.30 (2.16) | (-4.05, 4.64) | 0.892 | 0.946 | 0.02 | |
| | | Black - Hispanic | (.) | (.) | | | 17.157 | 17.318 | -2.69 (2.72) | (-8.17, 2.79) | 0.328 | 0.703 | -0.16 | -1.37 (2.42) | (-6.24, 3.50) | 0.574 | 0.970 | -0.08 | |
| | WJ III Applied Problems | White/Other | 450.09 (2.85) | 450.47 (3.04) | 353 | 243 | 23.487 | 21.965 | -0.38 (2.15) | (-4.69, 3.94) | 0.862 | 0.863 | -0.02 | -0.54 (1.87) | (-4.31, 3.22) | 0.773 | 0.898 | -0.02 | |
| | | Black | 449.32 (1.86) | 450.23 (2.23) | 433 | 243 | 23.487 | 21.965 | -0.91 (2.81) | (-6.57, 4.74) | 0.747 | 0.980 | -0.04 | -0.42 (2.48) | (-5.41, 4.57) | 0.866 | 0.970 | -0.02 | |
| | | Hispanic | 450.29 (2.08) | 449.82 (2.09) | 375 | 220 | 23.487 | 21.965 | 0.47 (2.18) | (-3.92, 4.86) | 0.830 | 0.958 | 0.02 | -0.75 (2.20) | (-5.17, 3.67) | 0.735 | 0.925 | -0.03 | |
| | WJ III Calculation | White/Other - Black | (.) | (.) | | | 23.487 | 21.965 | 0.54 (3.05) | (-5.59, 6.67) | 0.861 | 0.923 | 0.02 | -0.12 (2.84) | (-5.83, 5.59) | 0.966 | 0.996 | -0.01 | |
| | | White/Other - Hispanic | (.) | (.) | | | 23.487 | 21.965 | -0.85 (3.20) | (-7.28, 5.58) | 0.792 | 0.953 | -0.04 | 0.21 (3.04) | (-5.90, 6.31) | 0.946 | 0.946 | 0.01 | |
| | | Black - Hispanic | (.) | (.) | | | 23.487 | 21.965 | -1.38 (3.53) | (-8.49, 5.72) | 0.697 | 0.863 | -0.06 | 0.33 (3.42) | (-6.55, 7.21) | 0.924 | 0.970 | 0.01 | |
| | WJ III Calculation | White/Other | 459.53 (1.92) | 458.09 (1.87) | 354 | 244 | 20.153 | 20.588 | 1.44 (1.87) | (-2.32, 5.21) | 0.445 | 0.863 | 0.07 | 1.37 (1.58) | (-1.80, 4.55) | 0.389 | 0.898 | 0.07 | |
| | | Black | 452.01 (1.48) | 452.33 (2.10) | 434 | 243 | 20.153 | 20.588 | -0.32 (2.09) | (-4.51, 3.87) | 0.878 | 0.980 | -0.02 | 0.64 (1.65) | (-2.68, 3.96) | 0.701 | 0.970 | 0.03 | |
| | | Hispanic | 453.78 (1.68) | 450.08 (1.66) | 376 | 222 | 20.153 | 20.588 | 3.70 (2.40) | (-1.13, 8.53) | 0.130 | 0.457 | 0.18 | 2.86 (2.20) | (-1.55, 7.28) | 0.199 | 0.925 | 0.14 | |
| | WJ III Oral Comprehension | White/Other - Black | (.) | (.) | | | 20.153 | 20.588 | 1.77 (2.23) | (-2.71, 6.25) | 0.432 | 0.780 | 0.09 | 0.73 (1.97) | (-3.23, 4.70) | 0.711 | 0.906 | 0.04 | |
| | | White/Other - Hispanic | (.) | (.) | | | 20.153 | 20.588 | -2.25 (3.47) | (-9.22, 4.71) | 0.519 | 0.953 | -0.11 | -1.49 (2.97) | (-7.45, 4.48) | 0.619 | 0.946 | -0.07 | |
| | | Black - Hispanic | (.) | (.) | | | 20.153 | 20.588 | -4.02 (3.10) | (-10.26, 2.22) | 0.201 | 0.703 | -0.20 | -2.22 (2.45) | (-7.15, 2.71) | 0.369 | 0.970 | -0.11 | |
| | WJ III Oral Comprehension | White/Other | 461.41 (1.46) | 460.80 (1.66) | 354 | 243 | 17.275 | 16.974 | 0.61 (1.78) | (-2.96, 4.18) | 0.733 | 0.863 | 0.04 | 0.48 (1.50) | (-2.54, 3.51) | 0.749 | 0.898 | 0.03 | |
| | | Black | 460.29 (1.09) | 460.63 (1.71) | 434 | 245 | 17.275 | 16.974 | -0.34 (1.66) | (-3.67, 2.99) | 0.838 | 0.980 | -0.02 | 0.08 (1.50) | (-2.94, 3.10) | 0.959 | 0.970 | 0.00 | |
| | | Hispanic | 463.78 (1.04) | 463.82 (1.10) | 375 | 220 | 17.275 | 16.974 | -0.04 (1.49) | (-3.04, 2.97) | 0.981 | 0.981 | 0.00 | -0.68 (1.40) | (-3.49, 2.12) | 0.626 | 0.925 | -0.04 | |
| | WJ III Passage Comprehension | White/Other - Black | (.) | (.) | | | 17.275 | 16.974 | 0.95 (2.26) | (-3.59, 5.49) | 0.676 | 0.780 | 0.06 | 0.41 (2.08) | (-3.78, 4.59) | 0.846 | 0.906 | 0.02 | |
| | | White/Other - Hispanic | (.) | (.) | | | 17.275 | 16.974 | 0.64 (2.58) | (-4.54, 5.83) | 0.804 | 0.953 | 0.04 | 1.17 (2.30) | (-3.46, 5.79) | 0.614 | 0.946 | 0.07 | |
| | | Black - Hispanic | (.) | (.) | | | 17.275 | 16.974 | -0.31 (2.17) | (-4.66, 4.05) | 0.889 | 0.888 | -0.02 | 0.76 (1.89) | (-3.03, 4.56) | 0.688 | 0.970 | 0.04 | |
| | | | | | | | | | | | | | | | | | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|-----------------------------------|-----------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|-------------------------|---------|----------------------------|-------------|----------------------------|-------------------------|---------|----------------------------|-------------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size |
| Mother's Race/Ethnicity (cont'd) | WJ III Letter-Word Identification | White/Other | 436.05 (4.66) | 435.38 (4.85) | 353 | 244 | 36.679 | 35.270 | 0.67 (2.80) | (-4.95, 6.29) | 0.811 | 0.863 | 0.02 | -0.32 (2.18) | (-4.70, 4.07) | 0.886 | 0.898 | -0.01 |
| | | Black | 433.23 (3.24) | 432.87 (3.67) | 434 | 243 | 36.679 | 35.270 | 0.36 (4.26) | (-8.19, 8.92) | 0.933 | 0.980 | 0.01 | 1.03 (3.41) | (-5.83, 7.88) | 0.764 | 0.970 | 0.03 |
| | | Hispanic | 431.84 (3.07) | 430.13 (3.77) | 377 | 222 | 36.679 | 35.270 | 1.71 (3.73) | (-5.79, 9.20) | 0.649 | 0.958 | 0.05 | 0.58 (4.29) | (-8.03, 9.20) | 0.892 | 0.925 | 0.02 |
| | | White/Other - Black | .(.) | .(.) | . | . | 36.679 | 35.270 | 0.31 (4.37) | (-8.47, 9.09) | 0.944 | 0.944 | 0.01 | -1.34 (3.85) | (-9.09, 6.40) | 0.729 | 0.906 | -0.04 |
| | | White/Other - Hispanic | .(.) | .(.) | . | . | 36.679 | 35.270 | -1.03 (4.69) | (-10.47, 8.40) | 0.826 | 0.953 | -0.03 | -0.90 (4.51) | (-9.96, 8.16) | 0.843 | 0.946 | -0.03 |
| | | Black - Hispanic | .(.) | .(.) | . | . | 36.679 | 35.270 | -1.34 (5.86) | (-13.12, 10.43) | 0.819 | 0.878 | -0.04 | 0.44 (5.85) | (-11.32, 12.21) | 0.940 | 0.970 | 0.01 |
| | WJ III Writing Sample | White/Other | 482.70 (1.89) | 482.25 (2.22) | 354 | 244 | 14.316 | 14.957 | 0.45 (1.33) | (-2.22, 3.13) | 0.734 | 0.863 | 0.03 | 0.76 (1.29) | (-1.84, 3.36) | 0.561 | 0.898 | 0.05 |
| | | Black | 482.05 (1.08) | 483.62 (1.91) | 434 | 245 | 14.316 | 14.957 | -1.57 (2.15) | (-5.89, 2.75) | 0.468 | 0.980 | -0.11 | -1.15 (2.04) | (-5.25, 2.94) | 0.574 | 0.970 | -0.08 |
| | | Hispanic | 484.37 (1.26) | 483.31 (1.25) | 377 | 222 | 14.316 | 14.957 | 1.06 (1.44) | (-1.84, 3.96) | 0.465 | 0.848 | 0.07 | 0.26 (1.29) | (-2.34, 2.85) | 0.844 | 0.925 | 0.02 |
| | | White/Other - Black | .(.) | .(.) | . | . | 14.316 | 14.957 | 2.03 (2.23) | (-2.45, 6.51) | 0.368 | 0.780 | 0.14 | 1.91 (2.16) | (-2.43, 6.25) | 0.381 | 0.906 | 0.13 |
| | | White/Other - Hispanic | .(.) | .(.) | . | . | 14.316 | 14.957 | -0.61 (1.98) | (-4.59, 3.38) | 0.760 | 0.953 | -0.04 | 0.50 (1.77) | (-3.06, 4.06) | 0.778 | 0.946 | 0.03 |
| | WJ III Basic Reading Skills | Black - Hispanic | .(.) | .(.) | . | . | 14.316 | 14.957 | -2.64 (2.55) | (-7.76, 2.49) | 0.306 | 0.703 | -0.18 | -1.41 (2.36) | (-6.14, 3.32) | 0.552 | 0.970 | -0.09 |
| | | White/Other | 453.45 (3.74) | 452.25 (3.92) | 353 | 244 | 32.288 | 31.435 | 1.20 (2.43) | (-3.69, 6.09) | 0.623 | 0.863 | 0.04 | 0.82 (2.09) | (-3.39, 5.03) | 0.697 | 0.898 | 0.03 |
| | | Black | 449.25 (2.99) | 450.12 (3.33) | 433 | 242 | 32.288 | 31.435 | -0.87 (3.94) | (-8.79, 7.04) | 0.826 | 0.980 | -0.03 | -0.52 (3.52) | (-7.59, 6.54) | 0.883 | 0.970 | -0.02 |
| | | Hispanic | 451.23 (2.76) | 450.44 (3.17) | 376 | 221 | 32.288 | 31.435 | 0.79 (3.24) | (-5.73, 7.31) | 0.809 | 0.958 | 0.03 | -0.33 (3.46) | (-7.28, 6.62) | 0.925 | 0.925 | -0.01 |
| | WJ III Math Reasoning | White/Other - Black | .(.) | .(.) | . | . | 32.288 | 31.435 | 2.07 (3.97) | (-5.91, 10.06) | 0.604 | 0.780 | 0.07 | 1.34 (3.72) | (-6.15, 8.83) | 0.720 | 0.906 | 0.04 |
| | | White/Other - Hispanic | .(.) | .(.) | . | . | 32.288 | 31.435 | 0.41 (4.13) | (-7.89, 8.71) | 0.921 | 0.978 | 0.01 | 1.15 (3.77) | (-6.43, 8.72) | 0.762 | 0.946 | 0.04 |
| | | Black - Hispanic | .(.) | .(.) | . | . | 32.288 | 31.435 | -1.66 (5.15) | (-12.01, 8.69) | 0.748 | 0.863 | -0.05 | -0.19 (5.13) | (-10.50, 10.11) | 0.970 | 0.970 | -0.01 |
| Household Risk Index | PPVT (Adapted) | Low/No risk | 361.33 (1.96) | 358.40 (2.80) | 856 | 529 | 28.627 | 30.057 | 2.93 (2.77) | (-2.63, 8.50) | 0.294 | 0.660 | 0.10 | 1.64 (1.99) | (-2.36, 5.63) | 0.414 | 0.856 | 0.05 |
| | | Moderate risk | 356.50 (2.87) | 355.19 (3.59) | 211 | 130 | 28.627 | 30.057 | 1.31 (3.61) | (-5.95, 8.56) | 0.719 | 0.745 | 0.04 | 4.17 (2.93) | (-1.71, 10.05) | 0.160 | 0.400 | 0.14 |
| | | High risk | 360.48 (4.03) | 359.85 (5.22) | 98 | 52 | 28.627 | 30.057 | 0.63 (6.69) | (-12.81, 14.08) | 0.925 | 0.925 | 0.02 | 6.44 (5.47) | (-4.56, 17.43) | 0.245 | 0.385 | 0.21 |
| | | Low/No risk - moderate risk | .(.) | .(.) | . | . | 28.627 | 30.057 | 1.63 (4.36) | (-7.13, 10.38) | 0.710 | 0.710 | 0.05 | -2.53 (3.62) | (-9.82, 4.75) | 0.488 | 0.522 | -0.08 |
| | | Low/No risk - high risk | .(.) | .(.) | . | . | 28.627 | 30.057 | 2.30 (7.28) | (-12.32, 16.93) | 0.753 | 0.880 | 0.08 | -4.80 (5.78) | (-16.42, 6.82) | 0.410 | 0.616 | -0.16 |
| | | Moderate risk - high risk | .(.) | .(.) | . | . | 28.627 | 30.057 | 0.67 (7.64) | (-14.69, 16.04) | 0.930 | 0.963 | 0.02 | -2.27 (6.54) | (-15.41, 10.88) | 0.730 | 0.731 | -0.08 |
| | WJ III Academic Applications | Low/No risk | 463.89 (1.16) | 462.51 (1.49) | 854 | 527 | 17.147 | 17.318 | 1.38 (1.33) | (-1.29, 4.05) | 0.303 | 0.660 | 0.08 | 1.06 (1.20) | (-1.36, 3.48) | 0.383 | 0.856 | 0.06 |
| | | Moderate risk | 459.73 (1.87) | 462.20 (1.71) | 211 | 130 | 17.147 | 17.318 | -2.47 (2.43) | (-7.34, 2.41) | 0.314 | 0.613 | -0.14 | -2.77 (2.40) | (-7.60, 2.06) | 0.255 | 0.437 | -0.16 |
| | | High risk | 462.69 (2.11) | 459.79 (2.93) | 98 | 52 | 17.147 | 17.318 | 2.90 (3.62) | (-4.38, 10.18) | 0.427 | 0.857 | 0.17 | 5.44 (2.91) | (-0.41, 11.29) | 0.067 | 0.214 | 0.31 |
| | | Low/No risk - moderate risk | .(.) | .(.) | . | . | 17.147 | 17.318 | 3.85 (2.61) | (-1.39, 9.09) | 0.146 | 0.336 | 0.22 | 3.83 (2.65) | (-1.49, 9.15) | 0.155 | 0.394 | 0.22 |
| | | Low/No risk - high risk | .(.) | .(.) | . | . | 17.147 | 17.318 | -1.52 (4.07) | (-9.70, 6.66) | 0.711 | 0.880 | -0.09 | -4.38 (3.27) | (-10.94, 2.18) | 0.186 | 0.548 | -0.25 |
| | WJ III Academic Skills | Moderate risk - high risk | .(.) | .(.) | . | . | 17.147 | 17.318 | -5.37 (4.33) | (-14.08, 3.34) | 0.221 | 0.553 | -0.31 | -8.21 (3.89) | (-16.02, -0.40) | 0.040 | 0.119 | -0.47 |
| | | Low/No risk | 451.24 (1.66) | 450.87 (1.86) | 853 | 524 | 23.487 | 21.965 | 0.37 (1.73) | (-3.10, 3.84) | 0.830 | 0.889 | 0.02 | -0.28 (1.52) | (-3.34, 2.77) | 0.853 | 0.971 | -0.01 |
| | | Moderate risk | 444.56 (2.69) | 449.04 (2.14) | 210 | 130 | 23.487 | 21.965 | -4.48 (3.35) | (-11.21, 2.24) | 0.186 | 0.613 | -0.20 | -5.46 (3.27) | (-12.03, 1.11) | 0.101 | 0.391 | -0.25 |
| | | High risk | 449.29 (3.14) | 445.07 (3.49) | 98 | 52 | 23.487 | 21.965 | 4.22 (4.72) | (-5.26, 13.70) | 0.375 | 0.857 | 0.19 | 7.26 (3.94) | (-0 | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--------------------------------------|-----------------------------------|-----------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|---------------|-------------------------|---------|----------------------------|----------------------------|---------------|-------------------------|---------|----------------------------|-------------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size |
| Household Risk Index (cont'd) | WJ III Quantitative Concepts | Low/No risk | 463.04 (1.23) | 461.47 (1.18) | 855 | 526 | 17.242 | 17.256 | 1.56 (1.45) | (-1.35, 4.48) | 0.286 | 0.660 | 0.09 | 1.51 (1.20) | (-0.91, 3.92) | 0.216 | 0.809 | 0.09 |
| | | Moderate risk | 457.89 (2.38) | 460.61 (2.15) | 211 | 130 | 17.242 | 17.256 | -2.72 (3.07) | (-8.90, 3.45) | 0.379 | 0.632 | -0.16 | -2.18 (2.98) | (-8.18, 3.82) | 0.469 | 0.633 | -0.13 |
| | | High risk | 461.69 (2.65) | 462.30 (2.99) | 98 | 52 | 17.242 | 17.256 | -0.61 (4.18) | (-9.01, 7.78) | 0.884 | 0.925 | -0.04 | 0.01 (4.30) | (-8.62, 8.65) | 1.000 | 1.000 | 0.00 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 17.242 | 17.256 | 4.29 (3.28) | (-2.30, 10.88) | 0.197 | 0.336 | 0.25 | 3.68 (3.27) | (-2.89, 10.26) | 0.266 | 0.454 | 0.21 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 17.242 | 17.256 | 2.18 (4.68) | (-7.24, 11.59) | 0.644 | 0.880 | 0.13 | 1.49 (4.66) | (-7.87, 10.86) | 0.750 | 0.865 | 0.09 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 17.242 | 17.256 | -2.11 (5.44) | (-13.04, 8.81) | 0.699 | 0.807 | -0.12 | -2.19 (5.62) | (-13.48, 9.10) | 0.698 | 0.731 | -0.13 |
| | WJ III Spelling | Low/No risk | 455.13 (1.66) | 455.14 (2.15) | 855 | 529 | 25.223 | 24.139 | -0.01 (1.90) | (-3.84, 3.82) | 0.996 | 0.996 | 0.00 | -0.58 (1.77) | (-4.13, 2.98) | 0.746 | 0.971 | -0.02 |
| | | Moderate risk | 448.11 (3.06) | 455.74 (2.04) | 211 | 130 | 25.223 | 24.139 | -7.63 (3.93) | (-15.52, 0.27) | 0.058 | 0.601 | -0.32 | -8.56 (3.88) | (-16.37, -0.76) | 0.032 | 0.391 | -0.35 |
| | | High risk | 455.28 (3.08) | 449.95 (3.68) | 98 | 52 | 25.223 | 24.139 | 5.33 (4.56) | (-3.84, 14.50) | 0.248 | 0.857 | 0.22 | 8.85 (3.82) | (-1.18, 16.52) | 0.024 | 0.214 | 0.37 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 25.223 | 24.139 | 7.62 (4.06) | (-0.53, 15.77) | 0.066 | 0.336 | 0.32 | 7.98 (4.20) | (-0.46, 16.43) | 0.063 | 0.339 | 0.33 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 25.223 | 24.139 | -5.34 (5.33) | (-16.06, 5.37) | 0.321 | 0.880 | -0.22 | -9.43 (4.42) | (-18.31, -0.55) | 0.038 | 0.532 | -0.39 |
| | WJ III Word Attack | Moderate risk - high risk | (.) | (.) | . | . | 25.223 | 24.139 | -12.96 (6.44) | (-25.91, -0.02) | 0.050 | 0.553 | -0.54 | -17.41 (5.87) | (-29.21, -5.61) | 0.005 | 0.069 | -0.72 |
| | | Low/No risk | 470.23 (1.92) | 469.69 (2.21) | 855 | 525 | 30.895 | 30.546 | 0.54 (2.18) | (-3.84, 4.92) | 0.805 | 0.889 | 0.02 | -0.19 (2.25) | (-4.72, 4.34) | 0.932 | 0.971 | -0.01 |
| | | Moderate risk | 464.49 (3.58) | 468.64 (2.90) | 210 | 130 | 30.895 | 30.546 | -4.16 (4.18) | (-12.56, 4.24) | 0.325 | 0.613 | -0.14 | -5.14 (4.41) | (-14.01, 3.72) | 0.249 | 0.437 | -0.17 |
| | | High risk | 465.71 (5.08) | 463.30 (4.99) | 98 | 52 | 30.895 | 30.546 | 2.41 (7.08) | (-11.82, 16.64) | 0.735 | 0.857 | 0.08 | 6.55 (6.54) | (-6.60, 19.71) | 0.321 | 0.438 | 0.21 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 30.895 | 30.546 | 4.70 (4.30) | (-3.95, 13.35) | 0.280 | 0.382 | 0.15 | 4.95 (4.76) | (-4.61, 14.51) | 0.303 | 0.454 | 0.16 |
| | WJ III Letter-Word Identification | Low/No risk - high risk | (.) | (.) | . | . | 30.895 | 30.546 | -1.87 (7.57) | (-17.09, 13.34) | 0.806 | 0.880 | -0.06 | -6.75 (7.15) | (-21.13, 7.63) | 0.350 | 0.583 | -0.22 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 30.895 | 30.546 | -6.57 (8.41) | (-23.48, 10.34) | 0.438 | 0.648 | -0.22 | -11.70 (8.51) | (-28.80, 5.41) | 0.175 | 0.269 | -0.38 |
| | | Low/No risk | 435.30 (2.70) | 434.02 (2.99) | 855 | 527 | 36.679 | 35.270 | 1.29 (2.53) | (-3.81, 6.38) | 0.614 | 0.824 | 0.04 | 0.35 (2.23) | (-4.13, 4.82) | 0.877 | 0.971 | 0.01 |
| | | Moderate risk | 427.84 (3.99) | 429.89 (3.67) | 211 | 130 | 36.679 | 35.270 | -2.05 (4.94) | (-11.98, 7.88) | 0.680 | 0.745 | -0.06 | -3.18 (4.75) | (-12.73, 6.37) | 0.507 | 0.633 | -0.09 |
| | | High risk | 431.90 (5.61) | 428.01 (4.93) | 98 | 52 | 36.679 | 35.270 | 3.89 (7.18) | (-10.53, 18.32) | 0.590 | 0.857 | 0.11 | 7.77 (5.85) | (-3.99, 19.53) | 0.190 | 0.385 | 0.22 |
| | WJ III Writing Sample | Low/No risk - moderate risk | (.) | (.) | . | . | 36.679 | 35.270 | 3.33 (5.15) | (-7.02, 13.69) | 0.521 | 0.558 | 0.09 | 3.53 (4.98) | (-6.49, 13.54) | 0.483 | 0.522 | 0.10 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 36.679 | 35.270 | -2.60 (8.37) | (-19.42, 14.21) | 0.757 | 0.880 | -0.07 | -7.42 (6.97) | (-21.44, 6.59) | 0.292 | 0.548 | -0.21 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 36.679 | 35.270 | -5.94 (8.79) | (-23.60, 11.73) | 0.502 | 0.648 | -0.17 | -10.95 (7.63) | (-26.29, 4.39) | 0.157 | 0.269 | -0.31 |
| | | Low/No risk | 483.80 (0.96) | 483.30 (1.37) | 856 | 529 | 14.316 | 14.957 | 0.50 (1.12) | (-1.76, 2.76) | 0.659 | 0.824 | 0.03 | 0.31 (1.05) | (-1.80, 2.41) | 0.772 | 0.971 | 0.02 |
| | | Moderate risk | 480.45 (1.54) | 482.95 (1.66) | 211 | 130 | 14.316 | 14.957 | -2.50 (2.00) | (-6.52, 1.52) | 0.217 | 0.613 | -0.17 | -3.15 (1.91) | (-6.98, 0.68) | 0.104 | 0.391 | -0.21 |
| | WJ III Basic Reading Skills | High risk | 481.67 (2.13) | 479.98 (2.53) | 98 | 52 | 14.316 | 14.957 | 1.69 (3.36) | (-5.07, 8.44) | 0.618 | 0.857 | 0.11 | 3.72 (2.90) | (-2.10, 9.54) | 0.205 | 0.385 | 0.25 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 14.316 | 14.957 | 3.00 (1.96) | (-0.95, 6.94) | 0.133 | 0.336 | 0.20 | 3.46 (1.85) | (-0.27, 7.18) | 0.068 | 0.339 | 0.23 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 14.316 | 14.957 | -1.19 (3.61) | (-8.44, 6.06) | 0.743 | 0.880 | -0.08 | -3.41 (3.06) | (-9.56, 2.74) | 0.270 | 0.548 | -0.23 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 14.316 | 14.957 | -4.19 (3.83) | (-11.89, 3.52) | 0.280 | 0.600 | -0.28 | -6.87 (3.50) | (-13.91, 0.17) | 0.055 | 0.138 | -0.46 |
| | | Low/No risk | 452.81 (2.20) | 451.80 (2.49) | 854 | 525 | 32.288 | 31.435 | 1.01 (2.24) | (-3.48, 5.51) | 0.653 | 0.824 | 0.03 | 0.08 (2.20) | (-4.34, 4.50) | 0.971 | 0.971 | 0.00 |
| | WJ III Math Reasoning | Moderate risk | 446.08 (3.68) | 449.25 (3.05) | 210 | 130 | 32.288 | 31.435 | -3.17 (4.41) | (-12.03, 5.69) | 0.475 | 0.660 | -0.10 | -4.15 (4.47) | (-13.15, 4.84) | 0.358 | 0.536 | -0.13 |
| | | High risk | 448.82 (5.21) | 445.62 (4.56) | 98 | 52 | 32.288 | 31.435 | 3.20 (6.66) | (-10.19, 16.60) | 0.633 | 0.857 | 0.10 | 7.97 (5.75)</ | | | | |

Exhibit 1: 2006 Cognitive Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|----------------------------|-----------------------------------|-------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Urbanicity (cont'd) | WJ III Word Attack | Not Urban | 473.85 (2.61) | 463.49 (5.17) | 201 | 129 | 30.895 | 30.546 | 10.36 (4.67) | (0.97, 19.75) | 0.031 | 0.088 | 0.34 | 10.08 (5.03) | (-0.04, 20.20) | 0.051 | 0.114 | 0.33 |
| | | Urban | 467.55 (2.01) | 470.56 (2.10) | 962 | 578 | 30.895 | 30.546 | -3.01 (2.34) | (-7.71, 1.70) | 0.205 | 0.887 | -0.10 | -3.29 (2.11) | (-7.52, 0.94) | 0.125 | 0.603 | -0.11 |
| | | Not urban - urban | (.) | (.) | . | . | 30.895 | 30.546 | 13.37 (5.51) | (2.29, 24.45) | 0.019 | 0.125 | 0.44 | 13.37 (5.63) | (2.05, 24.68) | 0.021 | 0.115 | 0.44 |
| | WJ III Letter-Word Identification | Not Urban | 437.88 (2.99) | 427.81 (4.78) | 201 | 129 | 36.679 | 35.270 | 10.07 (4.88) | (0.25, 19.89) | 0.044 | 0.088 | 0.29 | 8.12 (5.11) | (-2.14, 18.39) | 0.118 | 0.160 | 0.23 |
| | | Urban | 432.62 (2.80) | 434.21 (2.85) | 963 | 580 | 36.679 | 35.270 | -1.59 (2.79) | (-7.20, 4.02) | 0.571 | 0.931 | -0.05 | -1.57 (2.31) | (-6.21, 3.06) | 0.498 | 0.802 | -0.04 |
| | | Not urban - urban | (.) | (.) | . | . | 36.679 | 35.270 | 11.66 (6.20) | (-0.80, 24.12) | 0.066 | 0.140 | 0.33 | 9.70 (6.07) | (-2.50, 21.90) | 0.116 | 0.165 | 0.27 |
| | WJ III Writing Sample | Not Urban | 483.42 (1.53) | 478.63 (1.85) | 201 | 130 | 14.316 | 14.957 | 4.79 (2.07) | (0.63, 8.95) | 0.025 | 0.088 | 0.32 | 4.67 (2.07) | (0.51, 8.83) | 0.028 | 0.114 | 0.31 |
| | | Urban | 482.93 (0.92) | 484.17 (1.37) | 964 | 581 | 14.316 | 14.957 | -1.24 (1.29) | (-3.84, 1.36) | 0.342 | 0.887 | -0.08 | -1.28 (1.17) | (-3.64, 1.08) | 0.282 | 0.603 | -0.09 |
| | | Not urban - urban | (.) | (.) | . | . | 14.316 | 14.957 | 6.03 (2.53) | (0.95, 11.11) | 0.021 | 0.125 | 0.40 | 5.95 (2.40) | (1.13, 10.77) | 0.016 | 0.115 | 0.40 |
| | WJ III Basic Reading Skills | Not Urban | 455.86 (2.60) | 445.66 (4.69) | 201 | 129 | 32.288 | 31.435 | 10.20 (4.63) | (0.90, 19.50) | 0.032 | 0.088 | 0.32 | 9.64 (4.87) | (-0.15, 19.44) | 0.053 | 0.114 | 0.31 |
| | | Urban | 450.11 (2.31) | 452.33 (2.38) | 961 | 578 | 32.288 | 31.435 | -2.22 (2.45) | (-7.15, 2.72) | 0.371 | 0.887 | -0.07 | -2.53 (2.12) | (-6.78, 1.73) | 0.238 | 0.603 | -0.08 |
| | | Not urban - urban | (.) | (.) | . | . | 32.288 | 31.435 | 12.42 (5.68) | (1.00, 23.83) | 0.033 | 0.125 | 0.40 | 12.17 (5.61) | (0.90, 23.44) | 0.035 | 0.128 | 0.39 |
| | WJ III Math Reasoning | Not Urban | 460.86 (1.19) | 455.58 (2.77) | 201 | 129 | 17.147 | 17.325 | 5.28 (2.57) | (0.11, 10.44) | 0.045 | 0.088 | 0.30 | 5.04 (2.40) | (0.23, 9.86) | 0.040 | 0.114 | 0.29 |
| | | Urban | 457.89 (1.20) | 457.93 (1.12) | 963 | 580 | 17.147 | 17.325 | -0.04 (1.51) | (-3.08, 3.00) | 0.978 | 0.978 | 0.00 | 0.26 (1.13) | (-2.02, 2.53) | 0.823 | 0.934 | 0.01 |
| | | Not urban - urban | (.) | (.) | . | . | 17.147 | 17.325 | 5.32 (3.24) | (-1.19, 11.83) | 0.107 | 0.165 | 0.31 | 4.79 (2.78) | (-0.81, 10.38) | 0.092 | 0.165 | 0.28 |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-----------------------------------|----------------------|-------------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms | Aggressive Behavior | No depressive symptoms | 2.01 (0.10) | 2.12 (0.18) | 585 | 349 | 1.823 | 1.812 | -0.11 (0.18) | (-0.48, 0.25) | 0.543 | 0.836 | -0.06 | -0.13 (0.16) | (-0.45, 0.19) | 0.424 | 0.770 | -0.07 |
| | | Mild depressive symptoms | 2.48 (0.15) | 2.34 (0.26) | 289 | 142 | 1.823 | 1.812 | 0.14 (0.30) | (-0.46, 0.75) | 0.633 | 0.842 | 0.08 | 0.07 (0.25) | (-0.44, 0.58) | 0.778 | 0.962 | 0.04 |
| | | Moderate depressive symptoms | 2.31 (0.19) | 2.73 (0.24) | 142 | 78 | 1.823 | 1.812 | -0.41 (0.26) | (-0.94, 0.12) | 0.123 | 0.370 | -0.23 | -0.31 (0.29) | (-0.90, 0.28) | 0.292 | 0.833 | -0.17 |
| | | Severe depressive symptoms | 2.96 (0.30) | 2.51 (0.32) | 97 | 58 | 1.823 | 1.812 | 0.45 (0.43) | (-0.41, 1.32) | 0.296 | 0.578 | 0.25 | 0.50 (0.38) | (-0.26, 1.27) | 0.190 | 0.537 | 0.28 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | -0.26 (0.35) | (-0.96, 0.45) | 0.470 | 0.627 | -0.14 | -0.20 (0.30) | (-0.80, 0.40) | 0.505 | 0.777 | -0.11 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | 0.30 (0.36) | (-0.41, 1.02) | 0.400 | 0.858 | 0.17 | 0.18 (0.35) | (-0.52, 0.88) | 0.601 | 0.899 | 0.10 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | -0.57 (0.50) | (-1.57, 0.44) | 0.262 | 0.664 | -0.31 | -0.63 (0.45) | (-1.54, 0.27) | 0.167 | 0.679 | -0.35 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | 0.56 (0.39) | (-0.23, 1.35) | 0.162 | 0.360 | 0.31 | 0.38 (0.38) | (-0.38, 1.15) | 0.316 | 0.702 | 0.21 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | -0.31 (0.56) | (-1.43, 0.81) | 0.579 | 0.842 | -0.17 | -0.43 (0.49) | (-1.41, 0.55) | 0.380 | 0.684 | -0.24 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 1.823 | 1.812 | -0.87 (0.54) | (-1.96, 0.23) | 0.117 | 0.575 | -0.48 | -0.82 (0.53) | (-1.89, 0.26) | 0.133 | 0.530 | -0.45 |
| | Hyperactive Behavior | No depressive symptoms | 1.20 (0.07) | 1.43 (0.12) | 585 | 349 | 1.479 | 1.581 | -0.22 (0.12) | (-0.47, 0.03) | 0.077 | 0.836 | -0.14 | -0.24 (0.13) | (-0.50, 0.01) | 0.058 | 0.585 | -0.15 |
| | | Mild depressive symptoms | 1.45 (0.15) | 1.38 (0.15) | 290 | 142 | 1.479 | 1.581 | 0.07 (0.19) | (-0.31, 0.45) | 0.716 | 0.842 | 0.04 | 0.05 (0.16) | (-0.28, 0.38) | 0.747 | 0.962 | 0.03 |
| | | Moderate depressive symptoms | 1.65 (0.14) | 1.76 (0.28) | 142 | 78 | 1.479 | 1.581 | -0.11 (0.29) | (-0.69, 0.47) | 0.704 | 0.939 | -0.07 | 0.10 (0.28) | (-0.46, 0.66) | 0.721 | 0.922 | 0.06 |
| | | Severe depressive symptoms | 1.94 (0.21) | 1.90 (0.35) | 97 | 58 | 1.479 | 1.581 | 0.04 (0.38) | (-0.73, 0.82) | 0.909 | 0.996 | 0.03 | -0.13 (0.36) | (-0.85, 0.58) | 0.708 | 0.787 | -0.08 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | -0.29 (0.23) | (-0.75, 0.17) | 0.205 | 0.456 | -0.19 | -0.30 (0.22) | (-0.74, 0.15) | 0.188 | 0.511 | -0.19 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | -0.11 (0.31) | (-0.74, 0.52) | 0.718 | 0.909 | -0.07 | -0.34 (0.32) | (-0.99, 0.30) | 0.290 | 0.830 | -0.22 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | -0.27 (0.41) | (-1.10, 0.57) | 0.521 | 0.694 | -0.17 | -0.11 (0.38) | (-0.88, 0.66) | 0.775 | 0.867 | -0.07 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | 0.18 (0.34) | (-0.51, 0.87) | 0.602 | 0.860 | 0.11 | -0.05 (0.32) | (-0.69, 0.60) | 0.886 | 0.932 | -0.03 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | 0.02 (0.44) | (-0.86, 0.91) | 0.955 | 0.955 | 0.02 | 0.19 (0.40) | (-0.61, 0.98) | 0.639 | 0.852 | 0.12 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 1.479 | 1.581 | -0.15 (0.51) | (-1.17, 0.86) | 0.761 | 0.801 | -0.10 | 0.23 (0.47) | (-0.71, 1.18) | 0.621 | 0.823 | 0.15 |
| | Closeness | No depressive symptoms | 33.47 (0.18) | 33.26 (0.23) | 585 | 349 | 2.497 | 2.803 | 0.21 (0.23) | (-0.26, 0.67) | 0.379 | 0.836 | 0.07 | 0.34 (0.21) | (-0.09, 0.76) | 0.117 | 0.585 | 0.12 |
| | | Mild depressive symptoms | 33.28 (0.18) | 33.19 (0.22) | 289 | 142 | 2.497 | 2.803 | 0.09 (0.24) | (-0.39, 0.57) | 0.714 | 0.842 | 0.03 | -0.01 (0.26) | (-0.54, 0.52) | 0.962 | 0.962 | 0.00 |
| | | Moderate depressive symptoms | 32.81 (0.26) | 32.82 (0.31) | 142 | 78 | 2.497 | 2.803 | -0.02 (0.41) | (-0.85, 0.82) | 0.970 | 0.986 | -0.01 | 0.11 (0.46) | (-0.81, 1.02) | 0.818 | 0.922 | 0.04 |
| | | Severe depressive symptoms | 33.01 (0.27) | 32.20 (0.58) | 97 | 58 | 2.497 | 2.803 | 0.81 (0.65) | (-0.50, 2.11) | 0.219 | 0.578 | 0.29 | 0.96 (0.69) | (-0.42, 2.34) | 0.168 | 0.537 | 0.34 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | 0.12 (0.34) | (-0.57, 0.81) | 0.733 | 0.774 | 0.04 | 0.35 (0.39) | (-0.44, 1.14) | 0.376 | 0.720 | 0.13 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | 0.22 (0.48) | (-0.73, 1.18) | 0.642 | 0.909 | 0.08 | 0.23 (0.47) | (-0.71, 1.18) | 0.624 | 0.899 | 0.08 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | -0.60 (0.74) | (-2.10, 0.90) | 0.424 | 0.694 | -0.21 | -0.62 (0.73) | (-2.08, 0.83) | 0.394 | 0.693 | -0.22 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | 0.10 (0.49) | (-0.88, 1.08) | 0.831 | 0.994 | 0.04 | -0.12 (0.57) | (-1.26, 1.02) | 0.836 | 0.932 | -0.04 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | -0.72 (0.73) | (-2.18, 0.74) | 0.329 | 0.632 | -0.26 | -0.97 (0.78) | (-2.55, 0.60) | 0.219 | 0.548 | -0.35 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 2.497 | 2.803 | -0.82 (0.86) | (-2.56, 0.91) | 0.345 | 0.696 | -0.29 | -0.86 (0.92) | (-2.71, 0.99) | 0.357 | 0.792 | -0.31 |
| | Conflict | No depressive symptoms | 15.55 (0.44) | 16.19 (0.56) | 584 | 349 | 6.727 | 6.591 | -0.63 (0.64) | (-1.93, 0.66) | 0.332 | 0.836 | -0.10 | -0.67 (0.59) | (-1.85, 0.51) | 0.259 | 0.648 | -0.10 |
| | | Mild depressive symptoms | 17.64 (0.53) | 17.90 (0.86) | 289 | 142 | 6.727 | 6.591 | -0.26 (0.98) | (-2.23, 1.71) | 0.791 | 0.842 | -0.04 | -0.37 (0.89) | (-2.15, 1.41) | 0.676 | 0.962 | -0.06 |
| | | Moderate depressive symptoms | 18.39 (0.50) | 21.01 (0.86) | 142 | 78 | 6.727 | 6.591 | -2.62 (0.96) | (-4.55, -0.70) | 0.009 | 0.170 | -0.40 | -2.10 (1.12) | (-4.34, 0.14) | 0.065 | 0.474 | -0.32 |
| | | Severe depressive symptoms | 19.70 (1.49) | 18.88 (1.26) | 97 | 58 | 6.727 | 6.591 | 0.82 (2.05) | (-3.31, 4.95) | 0.691 | 0.813 | 0.12 | -0.13 (1.92) | (-4.00, 3.73) | 0.944 | 0.944 | 0.02 |
| | | | | | | | | | | | | | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|--|------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|---|---------|----------------------------|--------|---|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms (cont'd) | Total Problem Behavior | No depressive symptoms | 4.27 (0.16) | 4.71 (0.35) | 585 | 349 | 3.866 | 3.925 | -0.44 (0.34) | (-1.13, 0.24) | 0.201 | 0.836 | -0.11 | -0.43 (0.29) | (-1.02, 0.17) | 0.154 | 0.601 | -0.11 |
| | | Mild depressive symptoms | 5.31 (0.38) | 4.77 (0.42) | 289 | 142 | 3.866 | 3.925 | 0.54 (0.55) | (-0.56, 1.65) | 0.327 | 0.594 | 0.14 | 0.34 (0.47) | (-0.61, 1.30) | 0.472 | 0.828 | 0.09 |
| | | Moderate depressive symptoms | 5.54 (0.38) | 6.36 (0.54) | 142 | 78 | 3.866 | 3.925 | -0.83 (0.54) | (-1.91, 0.26) | 0.131 | 0.370 | -0.21 | -0.26 (0.63) | (-1.53, 1.01) | 0.681 | 0.922 | -0.07 |
| | | Severe depressive symptoms | 6.68 (0.77) | 6.00 (0.90) | 97 | 58 | 3.866 | 3.925 | 0.68 (1.19) | (-1.71, 3.07) | 0.570 | 0.712 | 0.17 | 0.17 (1.01) | (-1.85, 2.19) | 0.865 | 0.911 | 0.04 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | -0.99 (0.65) | (-2.29, 0.32) | 0.134 | 0.335 | -0.25 | -0.77 (0.57) | (-1.92, 0.38) | 0.184 | 0.511 | -0.20 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | 0.38 (0.61) | (-0.84, 1.60) | 0.532 | 0.887 | 0.10 | -0.16 (0.68) | (-1.53, 1.20) | 0.809 | 0.899 | -0.04 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | -1.12 (1.30) | (-3.73, 1.49) | 0.392 | 0.694 | -0.29 | -0.60 (1.10) | (-2.80, 1.61) | 0.589 | 0.736 | -0.15 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | 1.37 (0.72) | (-0.08, 2.82) | 0.064 | 0.285 | 0.35 | 0.60 (0.79) | (-0.99, 2.20) | 0.450 | 0.767 | 0.15 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | -0.14 (1.34) | (-2.84, 2.57) | 0.920 | 0.955 | -0.03 | 0.17 (1.08) | (-2.01, 2.35) | 0.875 | 0.922 | 0.04 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 3.866 | 3.925 | -1.51 (1.39) | (-4.29, 1.28) | 0.283 | 0.696 | -0.38 | -0.43 (1.32) | (-3.09, 2.23) | 0.745 | 0.828 | -0.11 |
| | Withdrawn Behavior | No depressive symptoms | 0.62 (0.05) | 0.64 (0.07) | 585 | 349 | 1.006 | 0.923 | -0.03 (0.08) | (-0.19, 0.13) | 0.731 | 0.937 | -0.03 | -0.03 (0.08) | (-0.20, 0.13) | 0.675 | 0.940 | -0.04 |
| | | Mild depressive symptoms | 0.77 (0.10) | 0.64 (0.10) | 289 | 142 | 1.006 | 0.923 | 0.13 (0.12) | (-0.12, 0.38) | 0.290 | 0.581 | 0.14 | 0.09 (0.11) | (-0.14, 0.32) | 0.428 | 0.828 | 0.10 |
| | | Moderate depressive symptoms | 0.85 (0.08) | 1.14 (0.17) | 142 | 78 | 1.006 | 0.923 | -0.29 (0.15) | (-0.61, 0.02) | 0.063 | 0.313 | -0.32 | -0.23 (0.15) | (-0.53, 0.08) | 0.149 | 0.565 | -0.24 |
| | | Severe depressive symptoms | 1.17 (0.19) | 0.79 (0.18) | 97 | 58 | 1.006 | 0.923 | 0.38 (0.28) | (-0.19, 0.95) | 0.183 | 0.578 | 0.41 | 0.26 (0.25) | (-0.23, 0.76) | 0.295 | 0.537 | 0.28 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | -0.16 (0.15) | (-0.46, 0.14) | 0.291 | 0.526 | -0.17 | -0.13 (0.15) | (-0.42, 0.17) | 0.396 | 0.720 | -0.14 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | 0.27 (0.16) | (-0.05, 0.59) | 0.101 | 0.470 | 0.29 | 0.19 (0.16) | (-0.14, 0.52) | 0.244 | 0.830 | 0.21 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | -0.41 (0.32) | (-1.04, 0.23) | 0.201 | 0.664 | -0.44 | -0.29 (0.28) | (-0.85, 0.27) | 0.296 | 0.679 | -0.32 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | 0.43 (0.19) | (0.05, 0.80) | 0.026 | 0.262 | 0.46 | 0.32 (0.19) | (-0.06, 0.69) | 0.094 | 0.553 | 0.34 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | -0.25 (0.31) | (-0.88, 0.38) | 0.431 | 0.718 | -0.27 | -0.17 (0.26) | (-0.70, 0.36) | 0.524 | 0.749 | -0.18 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 1.006 | 0.923 | -0.67 (0.34) | (-1.35, 0.00) | 0.050 | 0.335 | -0.73 | -0.49 (0.31) | (-1.11, 0.14) | 0.122 | 0.530 | -0.53 |
| | ASPI-Aggressive | No depressive symptoms | 48.44 (0.55) | 48.98 (0.49) | 451 | 290 | 7.715 | 7.435 | -0.54 (0.68) | (-1.91, 0.83) | 0.435 | 0.836 | -0.07 | -0.41 (0.59) | (-1.58, 0.77) | 0.490 | 0.816 | -0.05 |
| | | Mild depressive symptoms | 48.58 (0.66) | 47.74 (0.85) | 240 | 114 | 7.715 | 7.435 | 0.84 (1.11) | (-1.39, 3.07) | 0.452 | 0.646 | 0.11 | -0.08 (1.00) | (-2.08, 1.93) | 0.940 | 0.962 | -0.01 |
| | | Moderate depressive symptoms | 50.51 (1.17) | 49.80 (1.03) | 106 | 66 | 7.715 | 7.435 | 0.71 (1.61) | (-2.53, 3.95) | 0.662 | 0.939 | 0.10 | 0.98 (1.66) | (-2.37, 4.33) | 0.559 | 0.922 | 0.13 |
| | | Severe depressive symptoms | 50.55 (1.03) | 52.19 (1.85) | 71 | 39 | 7.715 | 7.435 | -1.63 (2.36) | (-6.38, 3.11) | 0.492 | 0.703 | -0.22 | -1.86 (2.51) | (-6.91, 3.18) | 0.461 | 0.620 | -0.25 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | -1.38 (1.29) | (-3.97, 1.21) | 0.290 | 0.526 | -0.19 | -0.33 (1.23) | (-2.81, 2.15) | 0.789 | 0.929 | -0.04 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | -1.24 (1.85) | (-4.97, 2.48) | 0.504 | 0.887 | -0.17 | -1.39 (1.85) | (-5.10, 2.33) | 0.456 | 0.899 | -0.19 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | 1.10 (2.33) | (-3.59, 5.78) | 0.640 | 0.781 | 0.15 | 1.46 (2.48) | (-3.54, 6.45) | 0.560 | 0.736 | 0.20 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | 0.13 (1.92) | (-3.72, 3.99) | 0.945 | 0.994 | 0.02 | -1.06 (1.90) | (-4.88, 2.77) | 0.581 | 0.895 | -0.14 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | 2.47 (2.61) | (-2.77, 7.72) | 0.348 | 0.632 | 0.33 | 1.79 (2.71) | (-3.67, 7.24) | 0.513 | 0.749 | 0.24 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 7.715 | 7.435 | 2.34 (2.90) | (-3.48, 8.16) | 0.423 | 0.705 | 0.31 | 2.84 (2.91) | (-3.01, 8.70) | 0.334 | 0.792 | 0.38 |
| | ASPI-Inattentive/Hyperactive | No depressive symptoms | 50.09 (0.48) | 50.74 (0.57) | 462 | 292 | 8.456 | 8.430 | -0.65 (0.78) | (-2.22, 0.93) | 0.413 | 0.836 | -0.08 | -0.55 (0.65) | (-1.86, 0.76) | 0.403 | 0.770 | -0.07 |
| | | Mild depressive symptoms | 50.74 (0.61) | 48.93 (1.01) | 244 | 115 | 8.456 | 8.430 | 1.81 (1.14) | (-0.49, 4.11) | 0.120 | 0.478 | 0.21 | 1.00 (1.28) | (-1.57, 3.57) | 0.438 | 0.828 | 0.12 |
| | | Moderate depressive symptoms | 51.46 (1.03) | 51.84 (1.51) | 107 | 66 | 8.456 | 8.430 | -0.39 (1.98) | (-4.37, 3.60) | 0.847 | 0.986 | -0.05 | 0.08 (2.03) | (-4.00, 4.16) | 0.968 | 0.991 | 0.01 |
| | | Severe depressive symptoms | 50.49 (1.01) | 53.88 (2.06) | 73 | 38 | 8.456 | 8.430 | -3.39 (2.44) | (-8.30, 1.52) | 0.172 | 0.578 | -0.40 | -3.35 (2.50) | (-8.37, 1.67) | 0.186 | 0.537 | -0.40 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 8.456 | 8.430 | -2.46 (1.37) | (-5.20, 0.29) | 0.078 | 0.259 | -0.29 | -1.55 (1.48) | (-4.52, 1.42) | 0.299 | 0.665 | -0.18 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 8.456 | 8.430 | -0.26 (2.41) | (-5.10, 4.58) | 0.914 | 0.962 | -0.03 | -0.63 (2.39) | (- | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--|--|-------------------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms (cont'd) | ASPI-Shy/Socially Reticent | No depressive symptoms | 47.36 (0.44) | 46.87 (0.54) | 463 | 293 | 7.546 | 7.107 | 0.49 (0.69) | (-0.91, 1.89) | 0.484 | 0.836 | 0.07 | 0.39 (0.63) | (-0.87, 1.66) | 0.535 | 0.823 | 0.06 |
| | | Mild depressive symptoms | 47.89 (0.60) | 45.20 (0.62) | 244 | 116 | 7.546 | 7.107 | 2.69 (0.83) | (1.03, 4.35) | 0.002 | 0.020 | 0.38 | 2.36 (0.84) | (0.67, 4.06) | 0.007 | 0.074 | 0.33 |
| | | Moderate depressive symptoms | 46.56 (0.88) | 47.41 (1.13) | 107 | 66 | 7.546 | 7.107 | -0.85 (1.43) | (-3.72, 2.02) | 0.554 | 0.939 | -0.12 | -0.72 (1.48) | (-3.69, 2.25) | 0.628 | 0.922 | -0.10 |
| | | Severe depressive symptoms | 46.63 (1.34) | 48.53 (1.65) | 71 | 38 | 7.546 | 7.107 | -1.90 (1.88) | (-5.67, 1.87) | 0.316 | 0.578 | -0.27 | -2.18 (1.97) | (-6.14, 1.77) | 0.272 | 0.537 | -0.31 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | -2.20 (1.05) | (-4.30, -0.09) | 0.041 | 0.234 | -0.31 | -1.97 (1.02) | (-4.01, 0.07) | 0.058 | 0.378 | -0.28 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | 1.34 (1.68) | (-2.04, 4.72) | 0.429 | 0.858 | 0.19 | 1.11 (1.72) | (-2.35, 4.58) | 0.521 | 0.899 | 0.16 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | 2.39 (1.92) | (-1.47, 6.25) | 0.219 | 0.664 | 0.34 | 2.58 (2.05) | (-1.54, 6.69) | 0.214 | 0.679 | 0.36 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | 3.54 (1.80) | (-0.09, 7.16) | 0.055 | 0.285 | 0.50 | 3.08 (1.90) | (-0.73, 6.90) | 0.111 | 0.553 | 0.43 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | 4.59 (2.07) | (0.42, 8.76) | 0.032 | 0.158 | 0.65 | 4.55 (2.19) | (0.15, 8.94) | 0.043 | 0.202 | 0.64 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 7.546 | 7.107 | 1.05 (2.33) | (-3.62, 5.73) | 0.654 | 0.788 | 0.15 | 1.46 (2.49) | (-3.55, 6.48) | 0.559 | 0.823 | 0.21 |
| | ASPI-Problems with Structured Learning | No depressive symptoms | 50.31 (0.67) | 50.04 (0.99) | 474 | 302 | 10.758 | 10.468 | 0.27 (1.20) | (-2.15, 2.69) | 0.823 | 0.937 | 0.03 | 0.01 (1.00) | (-2.00, 2.03) | 0.988 | 0.988 | 0.00 |
| | | Mild depressive symptoms | 51.67 (0.74) | 47.64 (0.95) | 247 | 121 | 10.758 | 10.468 | 4.04 (1.10) | (1.82, 6.25) | 0.001 | 0.012 | 0.39 | 3.08 (1.11) | (0.86, 5.31) | 0.007 | 0.074 | 0.29 |
| | | Moderate depressive symptoms | 51.03 (1.42) | 53.00 (0.97) | 113 | 67 | 10.758 | 10.468 | -1.97 (1.97) | (-5.92, 1.99) | 0.322 | 0.660 | -0.19 | -1.39 (2.09) | (-5.58, 2.80) | 0.507 | 0.922 | -0.13 |
| | | Severe depressive symptoms | 50.91 (1.43) | 54.24 (2.19) | 78 | 42 | 10.758 | 10.468 | -3.33 (2.65) | (-8.66, 2.00) | 0.215 | 0.578 | -0.32 | -3.30 (3.04) | (-9.40, 2.81) | 0.283 | 0.537 | -0.32 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | -3.76 (1.27) | (-6.32, -1.21) | 0.005 | 0.094 | -0.36 | -3.07 (1.33) | (-5.74, -0.40) | 0.025 | 0.378 | -0.29 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | 2.24 (2.61) | (-3.01, 7.48) | 0.395 | 0.858 | 0.21 | 1.41 (2.59) | (-3.81, 6.62) | 0.590 | 0.899 | 0.13 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | 3.60 (2.83) | (-2.08, 9.28) | 0.209 | 0.664 | 0.34 | 3.31 (3.14) | (-3.00, 9.62) | 0.296 | 0.679 | 0.32 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | 6.00 (2.36) | (1.26, 10.74) | 0.014 | 0.262 | 0.57 | 4.48 (2.46) | (-0.47, 9.42) | 0.075 | 0.553 | 0.43 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | 7.37 (2.61) | (2.12, 12.61) | 0.007 | 0.135 | 0.70 | 6.38 (3.13) | (0.10, 12.66) | 0.046 | 0.202 | 0.61 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 10.758 | 10.468 | 1.36 (3.64) | (-5.95, 8.67) | 0.709 | 0.788 | 0.13 | 1.91 (3.87) | (-5.87, 9.68) | 0.624 | 0.823 | 0.18 |
| | ASPI-Problems with Teacher Interaction | No depressive symptoms | 49.99 (0.39) | 49.89 (0.63) | 474 | 302 | 10.029 | 10.104 | 0.11 (0.76) | (-1.43, 1.64) | 0.891 | 0.937 | 0.01 | 0.22 (0.76) | (-1.30, 1.74) | 0.774 | 0.968 | 0.02 |
| | | Mild depressive symptoms | 50.01 (0.71) | 48.37 (1.25) | 247 | 121 | 10.029 | 10.104 | 1.63 (1.44) | (-1.26, 4.52) | 0.262 | 0.581 | 0.16 | 1.42 (1.40) | (-1.39, 4.22) | 0.314 | 0.828 | 0.14 |
| | | Moderate depressive symptoms | 50.21 (1.20) | 53.27 (1.84) | 113 | 67 | 10.029 | 10.104 | -3.06 (2.08) | (-7.24, 1.13) | 0.148 | 0.370 | -0.30 | -3.01 (2.16) | (-7.35, 1.33) | 0.169 | 0.565 | -0.30 |
| | | Severe depressive symptoms | 50.54 (1.66) | 53.83 (2.43) | 78 | 42 | 10.029 | 10.104 | -3.29 (2.63) | (-8.57, 1.99) | 0.217 | 0.578 | -0.33 | -3.44 (2.47) | (-8.40, 1.53) | 0.170 | 0.537 | -0.34 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | -1.53 (1.77) | (-5.09, 2.03) | 0.393 | 0.604 | -0.15 | -1.20 (1.71) | (-6.44, 2.24) | 0.486 | 0.777 | -0.12 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | 3.16 (2.24) | (-1.34, 7.67) | 0.164 | 0.470 | 0.31 | 3.23 (2.31) | (-1.41, 7.87) | 0.168 | 0.830 | 0.32 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | 3.39 (2.65) | (-1.92, 8.71) | 0.205 | 0.664 | 0.34 | 3.66 (2.45) | (-1.28, 8.59) | 0.142 | 0.679 | 0.36 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | 4.69 (2.57) | (-0.47, 9.85) | 0.073 | 0.285 | 0.46 | 4.43 (2.49) | (-0.58, 9.44) | 0.082 | 0.553 | 0.44 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | 4.92 (2.89) | (-0.88, 10.73) | 0.094 | 0.315 | 0.49 | 4.86 (2.53) | (-0.23, 9.95) | 0.061 | 0.202 | 0.48 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 10.029 | 10.104 | 0.23 (3.30) | (-6.40, 6.86) | 0.944 | 0.02 | 0.43 (3.12) | (-5.84, 6.70) | 0.891 | 0.915 | 0.04 | |
| | Closeness | No depressive symptoms | 30.27 (0.26) | 29.67 (0.23) | 466 | 300 | 4.598 | 4.372 | 0.60 (0.38) | (-0.17, 1.36) | 0.122 | 0.836 | 0.14 | 0.61 (0.35) | (-0.10, 1.31) | 0.091 | 0.585 | 0.14 |
| | | Mild depressive symptoms | 29.90 (0.46) | 30.72 (0.51) | 246 | 120 | 4.598 | 4.372 | -0.82 (0.68) | (-2.19, 0.54) | 0.230 | 0.576 | -0.19 | -0.54 (0.62) | (-1.78, 0.70) | 0.386 | 0.828 | -0.12 |
| | | Moderate depressive symptoms | 29.38 (0.55) | 30.23 (0.66) | 113 | 67 | 4.598 | 4.372 | -0.84 (0.86) | (-2.57, 0.88) | 0.330 | 0.660 | -0.19 | -0.76 (0.83) | (-2.43, 0.91) | 0.366 | 0.916 | -0.17 |
| | | Severe depressive symptoms | 29.25 (0.65) | 28.11 (0.92) | 76 | 42 | 4.598 | 4.372 | 1.13 (1.15) | (-1.17, 3.44) | 0.328 | 0.578 | 0.26 | 1.46 (1.16) | (-0.86, 3.79) | 0.212 | 0.537 | 0.33 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 4.598 | 4.372 | 1.42 (0.76) | (-0.10, 2.95) | 0.067 | 0.25 | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|---|---|---|---------------------------------------|---------------------------------------|---------------------|---------------------|-------------------------------------|--------------------------------------|--|---|-------------------------|----------------------------|----------------------------|---|---|----------------------------|-------------------------|------------------------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Child's Pre-Academic Skills (cont'd) | Conflict | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 16.38 (0.31) 18.02 (0.52) . (.) | 16.70 (0.43) 19.08 (0.77) . (.) | 928 286 . (.) | 559 180 . (.) | 6.727 6.591 6.591 | 6.591 -1.06 (0.83) 0.74 (0.73) | -0.32 (0.44) (-2.72, 0.60) (-0.73, 2.21) | (-1.20, 0.56) (-2.72, 0.60) (-0.73, 2.21) | 0.468 0.205 0.317 | 0.955 0.620 0.693 | -0.05 -0.16 0.11 | -0.46 (0.39) -0.76 (0.90) 0.30 (0.82) | (-1.25, 0.32) (-2.56, 1.04) (-1.35, 1.94) | 0.242 0.401 0.719 | 0.838 0.746 0.884 | -0.07 -0.11 0.04 |
| | Positive Relationships | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 64.87 (0.37) 63.03 (0.52) . (.) | 64.52 (0.49) 61.47 (0.82) . (.) | 929 286 . (.) | 559 180 . (.) | 7.675 7.675 7.675 | 7.638 7.638 7.638 | 0.36 (0.47) 1.56 (0.88) -1.21 (0.86) | (-0.60, 1.31) (-0.22, 3.34) (-2.93, 0.51) | 0.456 0.083 0.165 | 0.955 0.521 0.693 | 0.05 0.20 -0.16 | 0.59 (0.43) 1.29 (0.95) -0.70 (0.92) | (-0.28, 1.45) (-0.63, 3.21) (-2.55, 1.15) | 0.180 0.183 0.450 | 0.838 0.746 0.884 | 0.08 0.17 -0.09 |
| | Social Competencies | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 11.13 (0.07) 11.16 (0.11) . (.) | 11.15 (0.09) 10.88 (0.14) . (.) | 930 287 . (.) | 559 180 . (.) | 1.321 1.321 1.321 | 1.278 1.278 1.278 | -0.02 (0.10) 0.27 (0.18) -0.30 (0.22) | (-0.23, 0.18) (-0.08, 0.63) (-0.74, 0.15) | 0.818 0.130 0.183 | 0.955 0.521 0.693 | -0.02 0.22 -0.23 | 0.03 (0.10) 0.25 (0.17) -0.21 (0.21) | (-0.18, 0.24) (-0.09, 0.58) (-0.64, 0.21) | 0.750 0.146 0.314 | 0.838 0.746 0.884 | 0.03 0.19 -0.17 |
| | Social Skills and Positive Approaches to Learning | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 12.70 (0.08) 12.16 (0.17) . (.) | 12.68 (0.10) 11.99 (0.18) . (.) | 929 287 . (.) | 559 180 . (.) | 1.672 1.672 1.672 | 1.647 1.647 1.647 | 0.02 (0.11) 0.17 (0.23) -0.15 (0.24) | (-0.21, 0.24) (-0.29, 0.63) (-0.64, 0.33) | 0.881 0.461 0.528 | 0.955 0.753 0.707 | 0.01 0.10 -0.09 | 0.03 (0.12) 0.10 (0.21) -0.08 (0.23) | (-0.21, 0.26) (-0.31, 0.52) (-0.53, 0.38) | 0.811 0.616 0.741 | 0.853 0.947 0.884 | 0.02 0.06 -0.05 |
| | Total Problem Behavior | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 4.58 (0.19) 5.92 (0.25) . (.) | 4.56 (0.26) 6.41 (0.46) . (.) | 930 286 . (.) | 559 180 . (.) | 3.866 3.866 3.866 | 3.925 3.925 3.925 | 0.02 (0.25) -0.49 (0.48) 0.51 (0.53) | (-0.48, 0.51) (-1.45, 0.46) (-0.56, 1.58) | 0.939 0.306 0.343 | 0.955 0.635 0.693 | 0.00 -0.13 0.13 | -0.07 (0.22) -0.37 (0.40) 0.30 (0.46) | (-0.51, 0.37) (-1.17, 0.43) (-0.62, 1.23) | 0.753 0.353 0.512 | 0.838 0.746 0.884 | -0.02 -0.10 0.08 |
| | Withdrawn Behavior | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 0.75 (0.05) 0.66 (0.08) . (.) | 0.69 (0.06) 0.78 (0.09) . (.) | 930 286 . (.) | 559 180 . (.) | 1.006 1.006 1.006 | 0.923 0.923 0.923 | 0.07 (0.06) -0.12 (0.10) 0.19 (0.12) | (-0.05, 0.19) (-0.33, 0.09) (-0.04, 0.43) | 0.249 0.246 0.106 | 0.955 0.620 0.693 | 0.08 -0.13 0.21 | 0.05 (0.06) -0.08 (0.11) 0.13 (0.13) | (-0.07, 0.17) (-0.31, 0.14) (-0.13, 0.39) | 0.417 0.746 0.313 | 0.838 0.746 0.884 | 0.05 -0.09 0.14 |
| | ASPI-Aggressive | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 48.13 (0.40) 49.89 (0.55) . (.) | 48.04 (0.50) 50.85 (0.70) . (.) | 727 218 . (.) | 456 144 . (.) | 7.715 7.715 7.715 | 7.435 7.435 7.435 | 0.09 (0.60) -0.95 (0.94) 1.05 (1.10) | (-1.10, 1.29) (-2.85, 0.94) (-1.17, 3.26) | 0.878 0.317 0.347 | 0.955 0.635 0.693 | 0.01 -0.13 0.14 | -0.41 (0.55) -0.97 (1.15) 0.57 (1.29) | (-1.51, 0.70) (-3.27, 1.33) (-2.02, 3.15) | 0.463 0.401 0.662 | 0.838 0.746 0.884 | -0.05 -0.13 0.08 |
| | ASPI-Inattentive/Hyperactive | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 49.69 (0.38) 51.48 (0.51) . (.) | 49.17 (0.49) 52.98 (0.65) . (.) | 741 222 . (.) | 459 144 . (.) | 8.456 8.456 8.456 | 8.430 8.430 8.430 | 0.52 (0.62) -1.50 (0.84) 2.02 (1.00) | (-0.72, 1.77) (-3.19, 0.18) (0.01, 4.03) | 0.403 0.080 0.049 | 0.955 0.521 0.693 | 0.06 -0.18 0.24 | -0.29 (0.57) -0.97 (1.09) 0.68 (1.16) | (-1.44, 0.86) (-3.17, 1.23) (-1.65, 3.01) | 0.616 0.380 0.561 | 0.838 0.746 0.884 | -0.03 -0.11 0.08 |
| | ASPI-Withdrawn/Low Energy | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 48.31 (0.34) 51.39 (0.59) . (.) | 48.27 (0.54) 49.97 (0.69) . (.) | 739 221 . (.) | 459 145 . (.) | 6.998 6.998 6.998 | 6.832 6.832 6.832 | 0.04 (0.70) 1.42 (0.92) -1.38 (1.25) | (-1.36, 1.44) (-0.44, 3.28) (-3.90, 1.14) | 0.955 0.130 0.276 | 0.955 0.521 0.693 | 0.01 0.21 -0.20 | 0.20 (0.59) 1.30 (0.93) -1.09 (1.15) | (-0.99, 1.40) (-0.58, 3.17) (-3.40, 1.22) | 0.733 0.746 0.346 | 0.838 0.746 0.884 | 0.03 -0.16 -0.16 |
| | ASPI-Oppositional | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 47.65 (0.36) 49.54 (0.60) . (.) | 47.50 (0.56) 49.40 (0.87) . (.) | 736 222 . (.) | 461 145 . (.) | 7.752 7.752 7.752 | 7.935 7.935 7.935 | 0.15 (0.70) 0.14 (1.13) 0.01 (1.27) | (-1.26, 1.56) (-2.13, 2.41) (-2.55, 2.57) | 0.833 0.902 0.995 | 0.955 0.934 0.995 | 0.02 0.02 0.00 | -0.23 (0.68) 0.98 (0.94) -1.21 (0.99) | (-1.59, 1.13) (-0.92, 2.88) (-3.21, 0.78) | 0.732 0.304 0.227 | 0.838 0.746 0.884 | -0.03 0.12 -0.15 |
| | ASPI-Problems with Peer Interactions | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 50.46 (0.63) 54.27 (0.80) . (.) | 50.21 (0.71) 55.18 (1.00) . (.) | 758 234 . (.) | 475 150 . (.) | 11.612 11.612 11.612 | 11.515 11.515 11.515 | 0.25 (0.99) -0.92 (1.44) 1.17 (1.63) | (-1.74, 2.24) (-3.81, 1.97) (-2.11, 4.44) | 0.802 0.527 0.478 | 0.955 0.753 0.707 | 0.02 -0.08 0.10 | -0.62 (0.91) 0.22 (1.64) -0.84 (1.92) | (-2.45, 1.22) (-3.08, 3.53) (-4.69, 3.01) | 0.502 0.893 0.663 | 0.838 0.953 0.884 | -0.05 0.02 -0.07 |
| | ASPI-Shy/Socially Reticent | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 46.39 (0.40) 48.89 (0.52) . (.) | 46.51 (0.44) 47.88 (0.72) . (.) | 739 223 . (.) | 461 144 . (.) | 7.546 7.546 7.546 | 7.107 7.107 7.107 | -0.12 (0.58) 1.01 (0.86) -1.13 (1.07) | (-1.28, 1.03) (-0.73, 2.74) (-3.27, 1.01) | 0.831 0.248 0.293 | 0.955 0.620 0.693 | -0.02 0.14 -0.16 | 0.30 (0.46) -0.05 (0.89) 0.35 (0.96) | (-0.62, 1.21) (-1.84, 1.73) (-1.59, 2.28) | 0.518 0.953 0.719 | 0.838 0.953 0.884 | 0.04 -0.01 0.05 |
| | ASPI-Problems with Structured Learning | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 48.89 (0.48) 53.62 (0.77) . (.) | 48.29 (0.76) 53.93 (0.90) . (.) | 758 234 . (.) | 475 150 . (.) | 10.758 10.758 10.758 | 10.468 10.468 10.468 | 0.60 (0.76) -0.31 (1.22) 0.91 (1.29) | (-0.92, 2.12) (-2.77, 2.15) (-1.68, 3.49) | 0.431 0.802 0.483 | 0.955 0.934 0.707 | 0.06 -0.03 0.09 | -0.09 (0.69) -0.18 (1.61) 0.09 (1.73) | (-1.49, 1.30) (-3.41, 3.05) (-3.40, 3.57) | 0.893 0.911 0.960 | 0.893 0.953 0.960 | -0.01 -0.02 0.01 |
| | ASPI-Problems with Teacher Interaction | Not In lowest quartile In lowest quartile Not In lowest quartile - In lowest quartile | 48.88 (0.44) 51.72 (0.56) . (.) | 49.01 (0.68) 51.80 (0.87) . (.) | 758 234 . (.) | 475 150 . (.) | 10.029 10.029 10.029 | 10.104 10.104 10.104 | -0.13 (0.77) -0.08 (0.95) -0.05 (1.19) | (-1.67, 1.42) (-2.00, 1.84) (-2.43, 2 | | | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | | |
|-------------------------------|---|-----------------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|----------------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|-------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | | |
| Special Needs (cont'd) | Social Skills and Positive Approaches to Learning | Not special needs | 12.63 (0.08) | 12.52 (0.11) | 1050 | 662 | 1.672 | 1.647 | 0.11 (0.12) | (-0.13, 0.35) | 0.359 | 0.742 | 0.07 | 0.08 (0.11) | (-0.15, 0.30) | 0.498 | 0.798 | 0.05 | |
| | | Special needs | 12.25 (0.23) | 12.48 (0.27) | | 166 | 77 | 1.672 | 1.647 | -0.22 (0.37) | (-0.97, 0.52) | 0.548 | 0.841 | -0.14 | -0.15 (0.34) | (-0.83, 0.54) | 0.670 | 0.845 | -0.09 |
| | | Not special needs - special needs | (.) | (.) | | . | 1.672 | 1.647 | 0.33 (0.40) | (-0.47, 1.14) | 0.406 | 0.811 | 0.20 | 0.22 (0.36) | (-0.51, 0.95) | 0.542 | 0.993 | 0.14 | |
| | Total Problem Behavior | Not special needs | 4.64 (0.14) | 4.83 (0.27) | 1051 | 662 | 3.866 | 3.925 | -0.19 (0.27) | (-0.73, 0.35) | 0.482 | 0.742 | -0.05 | -0.18 (0.22) | (-0.62, 0.26) | 0.420 | 0.798 | -0.05 | |
| | | Special needs | 6.46 (0.56) | 6.45 (0.62) | | 165 | 77 | 3.866 | 3.925 | 0.01 (0.84) | (-1.68, 1.69) | 0.994 | 0.994 | 0.00 | -0.02 (0.72) | (-1.46, 1.42) | 0.974 | 0.982 | -0.01 |
| | | Not special needs - special needs | (.) | (.) | | . | 3.866 | 3.925 | -0.20 (0.94) | (-2.09, 1.70) | 0.836 | 0.956 | -0.05 | -0.16 (0.80) | (-1.76, 1.45) | 0.846 | 0.993 | -0.04 | |
| | Withdrawn Behavior | Not special needs | 0.69 (0.04) | 0.69 (0.06) | 1051 | 662 | 1.006 | 0.923 | 0.01 (0.05) | (-0.10, 0.11) | 0.916 | 0.968 | 0.01 | 0.00 (0.05) | (-0.10, 0.10) | 0.943 | 0.981 | 0.00 | |
| | | Special needs | 1.00 (0.16) | 0.88 (0.14) | | 165 | 77 | 1.006 | 0.923 | 0.12 (0.20) | (-0.29, 0.52) | 0.556 | 0.841 | 0.13 | 0.09 (0.18) | (-0.28, 0.46) | 0.614 | 0.845 | 0.10 |
| | | Not special needs - special needs | (.) | (.) | | . | 1.006 | 0.923 | -0.11 (0.21) | (-0.53, 0.30) | 0.583 | 0.956 | -0.12 | -0.09 (0.19) | (-0.47, 0.29) | 0.635 | 0.993 | -0.10 | |
| | ASPI-Aggressive | Not special needs | 48.77 (0.39) | 48.95 (0.38) | 822 | 539 | 7.715 | 7.435 | -0.19 (0.52) | (-1.22, 0.85) | 0.721 | 0.968 | -0.02 | -0.34 (0.47) | (-1.29, 0.62) | 0.482 | 0.798 | -0.05 | |
| | | Special needs | 49.12 (0.58) | 50.79 (1.85) | | 123 | 61 | 7.715 | 7.435 | -1.67 (2.03) | (-5.74, 2.41) | 0.415 | 0.830 | -0.22 | -2.14 (1.93) | (-6.01, 1.73) | 0.272 | 0.717 | -0.29 |
| | | Not special needs - special needs | (.) | (.) | | . | 7.715 | 7.435 | 1.48 (2.04) | (-2.61, 5.57) | 0.470 | 0.855 | 0.20 | 1.80 (1.95) | (-2.12, 5.73) | 0.360 | 0.801 | 0.24 | |
| | ASPI-Inattentive/Hyperactive | Not special needs | 50.29 (0.37) | 50.26 (0.43) | 835 | 542 | 8.456 | 8.430 | 0.02 (0.56) | (-1.10, 1.15) | 0.968 | 0.968 | 0.00 | -0.01 (0.57) | (-1.16, 1.13) | 0.979 | 0.981 | 0.00 | |
| | | Special needs | 51.00 (0.82) | 54.06 (1.77) | | 128 | 61 | 8.456 | 8.430 | -3.06 (2.12) | (-7.32, 1.20) | 0.155 | 0.618 | -0.36 | -3.84 (2.02) | (-7.90, 0.22) | 0.063 | 0.316 | -0.46 |
| | | Not special needs - special needs | (.) | (.) | | . | 8.456 | 8.430 | 3.09 (2.23) | (-1.39, 7.56) | 0.172 | 0.491 | 0.37 | 3.82 (2.18) | (-0.56, 8.20) | 0.086 | 0.428 | 0.45 | |
| | ASPI-Withdrawn/Low Energy | Not special needs | 49.39 (0.28) | 48.53 (0.40) | 834 | 542 | 6.998 | 6.832 | 0.86 (0.48) | (-0.11, 1.83) | 0.081 | 0.742 | 0.13 | 0.75 (0.45) | (-0.17, 1.66) | 0.106 | 0.792 | 0.11 | |
| | | Special needs | 50.31 (0.93) | 52.30 (1.58) | | 126 | 62 | 6.998 | 6.832 | -1.99 (1.96) | (-5.92, 1.94) | 0.314 | 0.785 | -0.29 | -2.02 (2.02) | (-6.09, 2.05) | 0.323 | 0.717 | -0.30 |
| | | Not special needs - special needs | (.) | (.) | | . | 6.998 | 6.832 | 2.85 (1.92) | (-1.01, 6.70) | 0.144 | 0.491 | 0.42 | 2.77 (1.99) | (-1.24, 6.77) | 0.171 | 0.488 | 0.41 | |
| | ASPI-Oppositional | Not special needs | 48.39 (0.37) | 47.93 (0.44) | 833 | 544 | 7.752 | 7.935 | 0.47 (0.61) | (-0.76, 1.69) | 0.449 | 0.742 | 0.06 | 0.38 (0.58) | (-0.80, 1.55) | 0.519 | 0.798 | 0.05 | |
| | | Special needs | 48.38 (0.97) | 50.93 (1.74) | | 125 | 62 | 7.752 | 7.935 | -2.55 (2.11) | (-6.80, 1.69) | 0.233 | 0.776 | -0.32 | -2.58 (2.05) | (-6.70, 1.53) | 0.212 | 0.707 | -0.33 |
| | | Not special needs - special needs | (.) | (.) | | . | 7.752 | 7.935 | 3.02 (2.07) | (-1.14, 7.17) | 0.151 | 0.491 | 0.38 | 2.96 (2.04) | (-1.13, 7.06) | 0.152 | 0.488 | 0.37 | |
| | ASPI-Problems with Peer Interactions | Not special needs | 51.84 (0.60) | 51.60 (0.57) | 860 | 560 | 11.612 | 11.515 | 0.24 (0.90) | (-1.57, 2.04) | 0.795 | 0.968 | 0.02 | 0.02 (0.81) | (-1.62, 1.66) | 0.981 | 0.981 | 0.00 | |
| | | Special needs | 52.77 (1.03) | 56.84 (2.13) | | 132 | 65 | 11.612 | 11.515 | -4.07 (2.52) | (-9.13, 0.99) | 0.112 | 0.560 | -0.35 | -3.77 (2.29) | (-8.37, 0.83) | 0.106 | 0.422 | -0.33 |
| | | Not special needs - special needs | (.) | (.) | | . | 11.612 | 11.515 | 4.30 (2.57) | (-0.87, 9.48) | 0.101 | 0.491 | 0.37 | 3.79 (2.46) | (-1.16, 8.74) | 0.130 | 0.488 | 0.33 | |
| | ASPI-Shy/Socially Reticent | Not special needs | 47.28 (0.29) | 46.75 (0.41) | 835 | 543 | 7.546 | 7.107 | 0.53 (0.55) | (-0.58, 1.64) | 0.342 | 0.742 | 0.07 | 0.45 (0.47) | (-0.49, 1.40) | 0.340 | 0.798 | 0.06 | |
| | | Special needs | 47.85 (0.86) | 49.50 (1.40) | | 127 | 62 | 7.546 | 7.107 | -1.65 (1.50) | (-4.66, 1.36) | 0.275 | 0.785 | -0.23 | -1.69 (1.60) | (-4.92, 1.53) | 0.296 | 0.717 | -0.24 |
| | | Not special needs - special needs | (.) | (.) | | . | 7.546 | 7.107 | 2.18 (1.69) | (-1.21, 5.57) | 0.202 | 0.504 | 0.31 | 2.15 (1.73) | (-1.34, 5.64) | 0.221 | 0.553 | 0.30 | |
| | ASPI-Problems with Structured Learning | Not special needs | 50.63 (0.52) | 49.78 (0.61) | 860 | 560 | 10.758 | 10.468 | 0.85 (0.85) | (-0.85, 2.56) | 0.318 | 0.742 | 0.08 | 0.54 (0.70) | (-0.87, 1.95) | 0.447 | 0.798 | 0.05 | |
| | | Special needs | 51.58 (0.87) | 56.53 (2.08) | | 132 | 65 | 10.758 | 10.468 | -4.94 (2.24) | (-9.45, -0.43) | 0.032 | 0.560 | -0.47 | -5.01 (2.45) | (-9.94, -0.08) | 0.046 | 0.316 | -0.48 |
| | | Not special needs - special needs | (.) | (.) | | . | 10.758 | 10.468 | 5.80 (2.54) | (0.70, 10.89) | 0.027 | 0.449 | 0.55 | 5.55 (2.67) | (0.19, 10.91) | 0.043 | 0.416 | 0.53 | |
| | ASPI-Problems with Teacher Interaction | Not special needs | 49.63 (0.42) | 49.67 (0.52) | 860 | 560 | 10.029 | 10.104 | -0.04 (0.69) | (-1.42, 1.34) | 0.953 | 0.968 | 0.00 | -0.03 (0.68) | (-1.39, 1.34) | 0.969 | 0.981 | 0.00 | |
| | | Special needs | 52.43 (0.96) | 53.68 (2.26) | | 132 | 65 | 10.029 | 10.104 | -1.25 (2.73) | (-6.75, 4.25) | 0.649 | 0.841 | -0.12 | -1.28 (2.86) | (-7.03, 4.47) | 0.656 | 0.845 | -0.13 |
| | | Not special needs - special needs | (.) | (.) | | . | 10.029 | 10.104 | 1.21 (2.95) | (-4.73, 7.15) | 0.684 | 0.956 | 0.12 | 1.25 (3.03) | (-4.83, 7.34) | 0.681 | 0.993 | 0.12 | |
| | Closeness | Not special needs | 30.13 (0.19) | 29.91 (0.26) | 849 | 558 | 4.598 | 4.372 | 0.22 (0.30) | (-0.37, 0.82) | | | | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|---------------------------------------|--|-----------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Child's Home Language (cont'd) | ASPI-Aggressive | Not English | 46.46 (0.46) | 47.43 (0.67) | 236 | 152 | 7.715 | 7.435 | -0.97 (0.88) | (-2.73, 0.79) | 0.274 | 0.906 | -0.13 | -0.95 (0.81) | (-2.57, 0.68) | 0.247 | 0.822 | -0.13 |
| | | English | 49.54 (0.40) | 49.76 (0.50) | 709 | 448 | 7.715 | 7.435 | -0.22 (0.65) | (-1.52, 1.09) | 0.740 | 0.975 | -0.03 | -0.40 (0.57) | (-1.56, 0.75) | 0.484 | 0.753 | -0.05 |
| | | Not English - English | (.) | (.) | | | 7.715 | 7.435 | -0.75 (1.09) | (-2.94, 1.44) | 0.494 | 0.977 | -0.10 | -0.54 (0.97) | (-2.50, 1.42) | 0.580 | 0.984 | -0.07 |
| | ASPI-Inattentive/Hyperactive | Not English | 48.38 (0.55) | 48.94 (0.86) | 242 | 151 | 8.456 | 8.430 | -0.56 (0.86) | (-2.30, 1.18) | 0.521 | 0.906 | -0.07 | -0.43 (0.79) | (-2.01, 1.15) | 0.587 | 0.979 | -0.05 |
| | | English | 51.00 (0.38) | 51.28 (0.54) | 721 | 452 | 8.456 | 8.430 | -0.27 (0.68) | (-1.64, 1.09) | 0.688 | 0.975 | -0.03 | -0.45 (0.66) | (-1.77, 0.87) | 0.496 | 0.753 | -0.05 |
| | | Not English - English | (.) | (.) | | | 8.456 | 8.430 | -0.28 (1.08) | (-2.46, 1.89) | 0.794 | 0.977 | -0.03 | 0.02 (1.00) | (-1.99, 2.03) | 0.983 | 0.984 | 0.00 |
| | ASPI-Withdrawn/Low Energy | Not English | 50.00 (0.60) | 48.59 (0.74) | 241 | 152 | 6.998 | 6.832 | 1.41 (0.91) | (-0.43, 3.25) | 0.130 | 0.906 | 0.21 | 1.55 (0.96) | (-0.37, 3.47) | 0.112 | 0.822 | 0.23 |
| | | English | 49.36 (0.29) | 49.07 (0.51) | 719 | 452 | 6.998 | 6.832 | 0.29 (0.63) | (-0.97, 1.55) | 0.643 | 0.975 | 0.04 | 0.07 (0.56) | (-1.05, 1.19) | 0.904 | 0.920 | 0.01 |
| | | Not English - English | (.) | (.) | | | 6.998 | 6.832 | 1.12 (1.08) | (-1.05, 3.29) | 0.305 | 0.977 | 0.16 | 1.48 (1.04) | (-0.60, 3.56) | 0.159 | 0.984 | 0.22 |
| | ASPI-Oppositional | Not English | 45.87 (0.61) | 45.94 (0.71) | 240 | 153 | 7.752 | 7.935 | -0.07 (1.09) | (-2.27, 2.13) | 0.949 | 0.990 | -0.01 | -0.04 (1.11) | (-2.27, 2.19) | 0.973 | 0.980 | 0.00 |
| | | English | 49.17 (0.40) | 49.06 (0.59) | 718 | 453 | 7.752 | 7.935 | 0.11 (0.76) | (-1.42, 1.63) | 0.889 | 0.975 | 0.01 | 0.07 (0.72) | (-1.38, 1.53) | 0.920 | 0.920 | 0.01 |
| | | Not English - English | (.) | (.) | | | 7.752 | 7.935 | -0.18 (1.30) | (-2.80, 2.44) | 0.892 | 0.977 | -0.02 | -0.11 (1.32) | (-2.76, 2.54) | 0.933 | 0.984 | -0.01 |
| | ASPI-Problems with Peer Interactions | Not English | 48.54 (0.79) | 47.83 (0.91) | 247 | 157 | 11.612 | 11.515 | 0.71 (1.21) | (-1.73, 3.15) | 0.561 | 0.906 | 0.06 | 0.83 (1.08) | (-1.34, 3.00) | 0.445 | 0.979 | 0.07 |
| | | English | 53.00 (0.63) | 53.70 (0.74) | 745 | 468 | 11.612 | 11.515 | -0.70 (1.10) | (-2.90, 1.51) | 0.529 | 0.975 | -0.06 | -0.83 (0.94) | (-2.73, 1.07) | 0.382 | 0.753 | -0.07 |
| | | Not English - English | (.) | (.) | | | 11.612 | 11.515 | 1.41 (1.60) | (-1.80, 4.61) | 0.382 | 0.977 | 0.12 | 1.66 (1.40) | (-1.16, 4.49) | 0.241 | 0.984 | 0.14 |
| | ASPI-Shy/Socially Reticent | Not English | 47.92 (0.54) | 48.21 (0.79) | 242 | 152 | 7.546 | 7.107 | -0.28 (1.00) | (-2.29, 1.73) | 0.779 | 0.973 | -0.04 | -0.02 (0.97) | (-1.98, 1.93) | 0.980 | 0.980 | 0.00 |
| | | English | 47.19 (0.26) | 46.66 (0.48) | 720 | 453 | 7.546 | 7.107 | 0.53 (0.59) | (-0.65, 1.71) | 0.370 | 0.975 | 0.07 | 0.28 (0.53) | (-0.79, 1.35) | 0.601 | 0.753 | 0.04 |
| | | Not English - English | (.) | (.) | | | 7.546 | 7.107 | -0.81 (1.20) | (-3.23, 1.60) | 0.502 | 0.977 | -0.11 | -0.30 (1.18) | (-2.67, 2.06) | 0.797 | 0.984 | -0.04 |
| | ASPI-Problems with Structured Learning | Not English | 48.52 (0.70) | 47.90 (1.51) | 247 | 157 | 10.758 | 10.468 | 0.62 (1.49) | (-2.38, 3.62) | 0.680 | 0.906 | 0.06 | 0.84 (1.41) | (-1.99, 3.66) | 0.555 | 0.979 | 0.08 |
| | | English | 51.44 (0.53) | 51.45 (0.70) | 745 | 468 | 10.758 | 10.468 | -0.02 (0.94) | (-1.91, 1.87) | 0.986 | 0.986 | 0.00 | -0.43 (0.79) | (-2.01, 1.15) | 0.584 | 0.753 | -0.04 |
| | | Not English - English | (.) | (.) | | | 10.758 | 10.468 | 0.64 (1.79) | (-2.95, 4.22) | 0.723 | 0.977 | 0.06 | 1.27 (1.66) | (-2.06, 4.60) | 0.448 | 0.984 | 0.12 |
| | ASPI-Problems with Teacher Interaction | Not English | 48.86 (0.67) | 47.86 (0.83) | 247 | 157 | 10.029 | 10.104 | 1.00 (1.23) | (-1.47, 3.47) | 0.419 | 0.906 | 0.10 | 1.50 (1.22) | (-0.95, 3.95) | 0.223 | 0.822 | 0.15 |
| | | English | 50.35 (0.42) | 50.90 (0.70) | 745 | 468 | 10.029 | 10.104 | -0.55 (0.82) | (-2.19, 1.09) | 0.502 | 0.975 | -0.05 | -0.69 (0.78) | (-2.26, 0.89) | 0.384 | 0.753 | -0.07 |
| | | Not English - English | (.) | (.) | | | 10.029 | 10.104 | 1.55 (1.58) | (-1.62, 4.73) | 0.331 | 0.977 | 0.15 | 2.19 (1.47) | (-0.77, 5.15) | 0.143 | 0.984 | 0.22 |
| | Closeness | Not English | 29.77 (0.46) | 29.66 (0.58) | 243 | 156 | 4.598 | 4.372 | 0.11 (0.88) | (-1.66, 1.88) | 0.903 | 0.990 | 0.02 | -0.08 (0.78) | (-1.64, 1.47) | 0.914 | 0.980 | -0.02 |
| | | English | 29.99 (0.23) | 29.76 (0.27) | 738 | 466 | 4.598 | 4.372 | 0.23 (0.37) | (-0.50, 0.96) | 0.531 | 0.975 | 0.05 | 0.40 (0.33) | (-0.26, 1.06) | 0.224 | 0.753 | 0.09 |
| | | Not English - English | (.) | (.) | | | 4.598 | 4.372 | -0.12 (1.06) | (-2.26, 2.01) | 0.909 | 0.977 | -0.03 | -0.49 (0.92) | (-2.33, 1.36) | 0.598 | 0.984 | -0.11 |
| | Conflict | Not English | 12.14 (0.42) | 12.61 (0.56) | 243 | 154 | 6.937 | 6.933 | -0.47 (0.73) | (-1.93, 0.99) | 0.521 | 0.906 | -0.07 | -0.41 (0.64) | (-1.69, 0.86) | 0.517 | 0.979 | -0.06 |
| | | English | 14.72 (0.35) | 14.66 (0.57) | 738 | 465 | 6.937 | 6.933 | 0.06 (0.65) | (-1.24, 1.36) | 0.926 | 0.975 | 0.01 | -0.08 (0.56) | (-1.21, 1.05) | 0.887 | 0.920 | -0.01 |
| | | Not English - English | (.) | (.) | | | 6.937 | 6.933 | -0.53 (0.93) | (-2.40, 1.34) | 0.572 | 0.977 | -0.08 | -0.33 (0.84) | (-2.02, 1.35) | 0.692 | 0.984 | -0.05 |
| | Positive Relationships | Not English | 65.38 (0.80) | 64.77 (0.89) | 245 | 156 | 9.888 | 9.531 | 0.60 (1.36) | (-2.13, 3.33) | 0.659 | 0.906 | 0.06 | 0.39 (1.11) | (-1.84, 2.63) | 0.725 | 0.980 | 0.04 |
| | | English | 63.01 (0.49) | 62.88 (0.74) | 740 | 466 | 9.888 | 9.531 | 0.13 (0.89) | (-1.67, 1.92) | 0.886 | 0.975 | 0.01 | 0.46 (0.76) | (-1.07, 1.98) | 0.549 | 0.753 | 0.05 |
| | | Not English - English | (.) | (.) | | | 9.888 | 9.531 | 0.47 (1.75) | (-3.04, 3.98) | 0.787 | 0.977 | 0.05 | -0.06 (1.44) | (-2.95, 2.82) | 0.965 | 0.984 | -0.01 |
| | | | | | | | | | | | | | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|---|------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|---|---------|----------------------------|--------------|---------------|---|---------|----------------------------|-------------|--|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Mother's Race/Ethnicity (cont'd) | Social Skills and Positive Approaches to Learning | White/Other | 12.72 (0.11) | 12.34 (0.13) | 375 | 257 | 1.672 | 1.647 | 0.38 (0.14) | (0.11, 0.66) | 0.007 | 0.134 | 0.23 | 0.34 (0.16) | (0.03, 0.66) | 0.032 | 0.316 | 0.21 | |
| | | Black | 12.34 (0.14) | 12.31 (0.22) | 451 | 250 | 1.672 | 1.647 | 0.04 (0.23) | (-0.43, 0.50) | 0.875 | 0.951 | 0.02 | 0.00 (0.23) | (-0.45, 0.46) | 0.984 | 0.984 | 0.00 | |
| | | Hispanic | 12.67 (0.12) | 12.95 (0.12) | 390 | 232 | 1.672 | 1.647 | -0.28 (0.14) | (-0.55, -0.00) | 0.050 | 0.495 | -0.17 | -0.23 (0.11) | (-0.45, -0.00) | 0.047 | 0.316 | -0.14 | |
| | | White/Other - Black | (.) | (.) | . | . | 1.672 | 1.647 | 0.35 (0.27) | (-0.20, 0.89) | 0.208 | 0.595 | 0.21 | 0.34 (0.28) | (-0.22, 0.90) | 0.227 | 0.616 | 0.21 | |
| | | White/Other - Hispanic | (.) | (.) | . | . | 1.672 | 1.647 | 0.66 (0.18) | (0.30, 1.03) | 0.001 | 0.012 | 0.40 | 0.57 (0.19) | (0.19, 0.95) | 0.004 | 0.086 | 0.35 | |
| | | Black - Hispanic | (.) | (.) | . | . | 1.672 | 1.647 | 0.31 (0.23) | (-0.16, 0.78) | 0.185 | 0.724 | 0.19 | 0.23 (0.23) | (-0.23, 0.69) | 0.315 | 0.696 | 0.14 | |
| | Total Problem Behavior | White/Other | 5.39 (0.36) | 4.87 (0.40) | 376 | 257 | 3.866 | 3.925 | 0.53 (0.40) | (-0.29, 1.34) | 0.199 | 0.983 | 0.13 | 0.77 (0.40) | (-0.04, 1.58) | 0.061 | 0.407 | 0.20 | |
| | | Black | 4.45 (0.30) | 4.99 (0.52) | 450 | 250 | 3.866 | 3.925 | -0.53 (0.52) | (-1.58, 0.51) | 0.310 | 0.859 | -0.14 | -0.76 (0.38) | (-1.51, -0.00) | 0.049 | 0.269 | -0.19 | |
| | | Hispanic | 4.81 (0.26) | 5.21 (0.40) | 390 | 232 | 3.866 | 3.925 | -0.41 (0.44) | (-1.28, 0.47) | 0.359 | 0.742 | -0.10 | -0.46 (0.33) | (-1.13, 0.21) | 0.176 | 0.598 | -0.12 | |
| | Withdrawn Behavior | White/Other - Black | (.) | (.) | . | . | 3.866 | 3.925 | 1.06 (0.68) | (-0.31, 2.42) | 0.126 | 0.595 | 0.27 | 1.53 (0.58) | (0.36, 2.70) | 0.011 | 0.114 | 0.39 | |
| | | White/Other - Hispanic | (.) | (.) | . | . | 3.866 | 3.925 | 0.93 (0.65) | (-0.37, 2.23) | 0.157 | 0.628 | 0.24 | 1.23 (0.57) | (0.08, 2.38) | 0.037 | 0.175 | 0.31 | |
| | | Black - Hispanic | (.) | (.) | . | . | 3.866 | 3.925 | -0.13 (0.66) | (-1.44, 1.19) | 0.847 | -0.03 | -0.30 (0.46) | (-1.23, 0.63) | 0.524 | 0.696 | -0.08 | | |
| | ASPI-Aggressive | White/Other | 0.91 (0.08) | 0.77 (0.07) | 376 | 257 | 1.006 | 0.923 | 0.13 (0.12) | (-0.10, 0.37) | 0.247 | 0.983 | 0.15 | 0.17 (0.11) | (-0.05, 0.40) | 0.129 | 0.517 | 0.19 | |
| | | Black | 0.59 (0.06) | 0.67 (0.09) | 450 | 250 | 1.006 | 0.923 | -0.08 (0.11) | (-0.30, 0.15) | 0.500 | 0.859 | -0.08 | -0.13 (0.10) | (-0.34, 0.07) | 0.199 | 0.603 | -0.15 | |
| | | Hispanic | 0.71 (0.06) | 0.68 (0.10) | 390 | 232 | 1.006 | 0.923 | 0.03 (0.08) | (-0.14, 0.19) | 0.745 | 0.828 | 0.03 | 0.02 (0.09) | (-0.16, 0.19) | 0.863 | 0.958 | 0.02 | |
| | | White/Other - Black | (.) | (.) | . | . | 1.006 | 0.923 | 0.21 (0.16) | (-0.12, 0.54) | 0.201 | 0.595 | 0.23 | 0.31 (0.15) | (-0.00, 0.62) | 0.052 | 0.257 | 0.33 | |
| | | White/Other - Hispanic | (.) | (.) | . | . | 1.006 | 0.923 | 0.11 (0.15) | (-0.19, 0.41) | 0.472 | 0.796 | 0.12 | 0.16 (0.15) | (-0.15, 0.46) | 0.301 | 0.681 | 0.17 | |
| | | Black - Hispanic | (.) | (.) | . | . | 1.006 | 0.923 | -0.10 (0.14) | (-0.39, 0.18) | 0.470 | 0.724 | -0.11 | 0.15 (0.14) | (-0.43, 0.13) | 0.294 | 0.696 | -0.16 | |
| | ASPI-Inattentive/Hyperactive | White/Other | 48.58 (0.63) | 48.47 (0.58) | 292 | 209 | 7.715 | 7.435 | 0.11 (0.92) | (-1.73, 1.95) | 0.902 | 0.983 | 0.02 | -0.15 (0.87) | (-1.91, 1.60) | 0.862 | 0.862 | -0.02 | |
| | | Black | 50.62 (0.62) | 50.76 (0.91) | 334 | 197 | 7.715 | 7.435 | -0.14 (1.17) | (-2.50, 2.21) | 0.903 | 0.951 | -0.02 | -0.31 (1.05) | (-2.43, 1.81) | 0.770 | 0.941 | -0.04 | |
| | | Hispanic | 47.28 (0.60) | 48.30 (0.60) | 319 | 194 | 7.715 | 7.435 | -1.02 (0.85) | (-2.72, 0.68) | 0.235 | 0.742 | -0.14 | -1.11 (0.72) | (-2.56, 0.34) | 0.130 | 0.598 | -0.15 | |
| | ASPI-Withdrawn/Low Energy | White/Other - Black | (.) | (.) | . | . | 7.715 | 7.435 | 0.26 (1.60) | (-2.97, 3.48) | 0.874 | 0.948 | 0.03 | 0.16 (0.48) | (-2.81, 3.13) | 0.915 | 0.968 | 0.02 | |
| | | White/Other - Hispanic | (.) | (.) | . | . | 7.715 | 7.435 | 1.13 (1.25) | (-1.37, 3.63) | 0.368 | 0.796 | 0.15 | 0.96 (0.12) | (-1.30, 3.21) | 0.398 | 0.681 | 0.13 | |
| | | Black - Hispanic | (.) | (.) | . | . | 7.715 | 7.435 | 0.87 (1.44) | (-2.01, 3.76) | 0.545 | 0.724 | 0.12 | 0.80 (1.27) | (-1.76, 3.36) | 0.532 | 0.696 | 0.11 | |
| | ASPI-Oppositional | White/Other | 50.66 (0.56) | 50.51 (0.64) | 299 | 211 | 8.456 | 8.430 | 0.15 (0.94) | (-1.75, 2.05) | 0.873 | 0.983 | 0.02 | -0.18 (0.88) | (-1.95, 1.59) | 0.838 | 0.862 | -0.02 | |
| | | Black | 51.25 (0.62) | 51.28 (0.82) | 337 | 199 | 8.456 | 8.430 | -0.03 (1.06) | (-2.17, 2.10) | 0.975 | 0.951 | 0.00 | -0.14 (1.06) | (-2.27, 1.99) | 0.894 | 0.941 | -0.02 | |
| | | Hispanic | 49.26 (0.55) | 50.24 (0.89) | 327 | 193 | 8.456 | 8.430 | -0.98 (0.98) | (-2.95, 0.99) | 0.322 | 0.742 | -0.12 | -1.06 (0.79) | (-2.64, 0.52) | 0.182 | 0.598 | -0.13 | |
| | ASPI-Problems with Peer Interactions | White/Other - Black | (.) | (.) | . | . | 8.456 | 8.430 | 0.18 (1.47) | (-2.76, 3.13) | 0.900 | 0.948 | 0.02 | -0.04 (1.38) | (-2.82, 2.74) | 0.977 | 0.977 | 0.00 | |
| | | White/Other - Hispanic | (.) | (.) | . | . | 8.456 | 8.430 | 1.13 (1.33) | (-1.55, 3.81) | 0.401 | 0.796 | 0.13 | 0.88 (1.14) | (-1.41, 3.17) | 0.443 | 0.681 | 0.10 | |
| | | Black - Hispanic | (.) | (.) | . | . | 8.456 | 8.430 | 0.95 (1.48) | (-2.02, 3.92) | 0.525 | 0.724 | 0.11 | 0.92 (1.32) | (-1.73, 3.57) | 0.488 | 0.696 | 0.11 | |
| | ASPI-Shy/Socially Reticent | White/Other | 48.91 (0.46) | 49.30 (0.83) | 298 | 210 | 6.998 | 6.832 | -0.39 (0.92) | (-2.24, 1.46) | 0.673 | 0.983 | -0.06 | -0.62 (0.85) | (-2.33, 1.08) | 0.464 | 0.862 | -0.09 | |
| | | Black | 49.65 (0.48) | 49.00 (0.72) | 338 | 199 | 6.998 | 6.832 | 0.65 (0.91) | (-1.18, 2.47) | 0.480 | 0.859 | 0.09 | 0.35 (0.86) | (-1.38, 2.09) | 0.686 | 0.941 | 0.05 | |
| | | Hispanic | 49.99 (0.44) | 48.51 (0.55) | 324 | 195 | 6.998 | 6.832 | 1.47 (0.67) | (0.13, 2.81) | 0.032 | 0.495 | 0.22 | 1.56 (0.69) | (0.17, 2.96) | 0.028 | 0.299 | 0.23 | |
| | ASPI-Problems with Structured Learning | White/Other - Black | (.) | (.) | . | . | 6.998 | 6.832 | -1.04 (1.22) | (-3.49, 1.42) | 0 | | | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|------------------------|-----------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|-------------------------|---------|----------------------------|--------|----------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Mother's Race/Ethnicity (cont'd) | Closeness | White/Other | 30.41 (0.33) | 29.99 (0.28) | 301 | 216 | 4.598 | 4.372 | 0.42 (0.39) | (-0.36, 1.19) | 0.286 | 0.983 | 0.10 | 0.61 (0.37) | (-0.13, 1.34) | 0.103 | 0.515 | 0.14 |
| | | Black | 29.53 (0.32) | 29.60 (0.35) | 350 | 208 | 4.598 | 4.372 | -0.07 (0.47) | (-1.01, 0.86) | 0.876 | 0.951 | -0.02 | 0.12 (0.49) | (-0.86, 1.10) | 0.804 | 0.941 | 0.03 |
| | | Hispanic | 29.89 (0.29) | 29.60 (0.44) | 330 | 198 | 4.598 | 4.372 | 0.29 (0.59) | (-0.91, 1.48) | 0.632 | 0.789 | 0.07 | 0.12 (0.53) | (-0.95, 1.19) | 0.825 | 0.958 | 0.03 |
| | | White/Other - Black | (.) | (.) | . | . | 4.598 | 4.372 | 0.49 (0.54) | (-0.59, 1.57) | 0.366 | 0.789 | 0.11 | 0.48 (0.57) | (-0.66, 1.63) | 0.399 | 0.683 | 0.11 |
| | | White/Other - Hispanic | (.) | (.) | . | . | 4.598 | 4.372 | 0.13 (0.71) | (-1.29, 1.55) | 0.854 | 0.949 | 0.03 | 0.49 (0.61) | (-0.73, 1.71) | 0.424 | 0.681 | 0.11 |
| | | Black - Hispanic | (.) | (.) | . | . | 4.598 | 4.372 | -0.36 (0.79) | (-1.95, 1.23) | 0.652 | 0.724 | -0.08 | 0.00 (0.78) | (-1.57, 1.58) | 0.996 | 0.996 | 0.00 |
| | Conflict | White/Other | 13.74 (0.45) | 13.72 (0.58) | 298 | 213 | 6.937 | 6.933 | 0.02 (0.84) | (-1.66, 1.70) | 0.983 | 0.983 | 0.00 | -0.19 (0.75) | (-1.69, 1.30) | 0.795 | 0.862 | -0.03 |
| | | Black | 16.10 (0.60) | 15.62 (0.94) | 351 | 208 | 6.937 | 6.933 | 0.49 (0.98) | (-1.48, 2.45) | 0.621 | 0.859 | 0.07 | 0.30 (0.94) | (-1.58, 2.18) | 0.751 | 0.941 | 0.04 |
| | | Hispanic | 12.54 (0.43) | 13.04 (0.69) | 332 | 198 | 6.937 | 6.933 | -0.51 (0.86) | (-2.23, 1.21) | 0.556 | 0.742 | -0.07 | -0.53 (0.65) | (-1.84, 0.79) | 0.424 | 0.705 | -0.08 |
| | | White/Other - Black | (.) | (.) | . | . | 6.937 | 6.933 | -0.47 (1.25) | (-2.99, 2.05) | 0.710 | 0.887 | -0.07 | -0.49 (1.19) | (-2.88, 1.89) | 0.679 | 0.849 | -0.07 |
| | | White/Other - Hispanic | (.) | (.) | . | . | 6.937 | 6.933 | 0.52 (1.25) | (-1.98, 3.03) | 0.676 | 0.881 | 0.08 | 0.33 (1.03) | (-1.75, 2.41) | 0.750 | 0.815 | 0.05 |
| | | Black - Hispanic | (.) | (.) | . | . | 6.937 | 6.933 | 0.99 (1.23) | (-1.48, 3.47) | 0.423 | 0.724 | 0.14 | 0.83 (1.09) | (-1.37, 3.02) | 0.453 | 0.696 | 0.12 |
| | Positive Relationships | White/Other | 64.32 (0.64) | 63.95 (0.78) | 301 | 216 | 9.888 | 9.531 | 0.37 (1.16) | (-1.96, 2.70) | 0.751 | 0.983 | 0.04 | 0.78 (1.05) | (-1.34, 2.90) | 0.465 | 0.862 | 0.08 |
| | | Black | 61.11 (0.78) | 61.84 (1.10) | 352 | 208 | 9.888 | 9.531 | -0.73 (1.16) | (-3.06, 1.60) | 0.533 | 0.859 | -0.08 | -0.34 (1.09) | (-2.53, 1.85) | 0.756 | 0.941 | -0.04 |
| | | Hispanic | 65.25 (0.56) | 64.31 (0.96) | 332 | 198 | 9.888 | 9.531 | 0.94 (1.22) | (-1.50, 3.39) | 0.442 | 0.742 | 0.10 | 0.83 (0.89) | (-0.96, 2.61) | 0.357 | 0.705 | 0.09 |
| | | White/Other - Black | (.) | (.) | . | . | 9.888 | 9.531 | 1.10 (1.52) | (-1.96, 4.16) | 0.473 | 0.789 | 0.12 | 1.12 (1.45) | (-1.79, 4.03) | 0.444 | 0.683 | 0.12 |
| | | White/Other - Hispanic | (.) | (.) | . | . | 9.888 | 9.531 | -0.57 (1.78) | (-4.15, 3.00) | 0.749 | 0.881 | -0.06 | -0.05 (1.39) | (-2.85, 2.75) | 0.972 | 0.972 | -0.01 |
| | | Black - Hispanic | (.) | (.) | . | . | 9.888 | 9.531 | -1.67 (1.62) | (-4.94, 1.59) | 0.307 | 0.724 | -0.18 | -1.17 (1.41) | (-4.00, 1.66) | 0.411 | 0.696 | -0.12 |
| Household Risk Index | Aggressive Behavior | Low/No risk | 2.17 (0.08) | 2.11 (0.13) | 897 | 549 | 1.823 | 1.812 | 0.06 (0.14) | (-0.22, 0.33) | 0.678 | 0.962 | 0.03 | 0.04 (0.12) | (-0.20, 0.29) | 0.717 | 0.943 | 0.02 |
| | | Moderate risk | 2.25 (0.19) | 2.81 (0.20) | 217 | 135 | 1.823 | 1.812 | -0.56 (0.26) | (-1.07, -0.04) | 0.035 | 0.139 | -0.31 | -0.57 (0.23) | (-1.03, -0.11) | 0.017 | 0.111 | -0.32 |
| | | High risk | 2.80 (0.27) | 2.64 (0.34) | 102 | 55 | 1.823 | 1.812 | 0.16 (0.39) | (-0.62, 0.95) | 0.677 | 0.920 | 0.09 | 0.15 (0.32) | (-0.49, 0.79) | 0.643 | 0.995 | 0.08 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 1.823 | 1.812 | 0.61 (0.31) | (-0.00, 1.23) | 0.050 | 0.226 | 0.34 | 0.62 (0.28) | (0.05, 1.19) | 0.035 | 0.174 | 0.34 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 1.823 | 1.812 | -0.11 (0.43) | (-0.98, 0.76) | 0.807 | 0.970 | -0.06 | -0.10 (0.33) | (-0.78, 0.57) | 0.755 | 0.978 | -0.06 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 1.823 | 1.812 | -0.72 (0.50) | (-1.72, 0.28) | 0.154 | 0.558 | -0.40 | -0.72 (0.39) | (-1.50, 0.06) | 0.070 | 0.710 | -0.40 |
| | Hyperactive Behavior | Low/No risk | 1.34 (0.07) | 1.37 (0.11) | 898 | 549 | 1.479 | 1.581 | -0.03 (0.10) | (-0.24, 0.18) | 0.760 | 0.962 | -0.02 | -0.01 (0.09) | (-0.19, 0.17) | 0.910 | 0.961 | -0.01 |
| | | Moderate risk | 1.46 (0.12) | 1.90 (0.20) | 217 | 135 | 1.479 | 1.581 | -0.44 (0.19) | (-0.82, -0.07) | 0.021 | 0.139 | -0.28 | -0.50 (0.17) | (-0.86, -0.15) | 0.006 | 0.057 | -0.32 |
| | | High risk | 1.66 (0.15) | 1.80 (0.39) | 102 | 55 | 1.479 | 1.581 | -0.14 (0.42) | (-0.98, 0.70) | 0.739 | 0.920 | -0.09 | -0.24 (0.45) | (-1.14, 0.66) | 0.597 | 0.995 | -0.15 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 1.479 | 1.581 | 0.41 (0.21) | (-0.01, 0.83) | 0.055 | 0.226 | 0.26 | 0.49 (0.21) | (0.07, 0.92) | 0.023 | 0.174 | 0.31 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 1.479 | 1.581 | 0.11 (0.45) | (-0.80, 1.01) | 0.811 | 0.970 | 0.07 | 0.23 (0.47) | (-0.71, 1.17) | 0.626 | 0.978 | 0.15 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 1.479 | 1.581 | -0.30 (0.50) | (-1.31, 0.71) | 0.549 | 0.686 | -0.19 | -0.26 (0.50) | (-1.26, 0.73) | 0.596 | 0.710 | -0.17 |
| | Closeness | Low/No risk | 33.40 (0.11) | 33.11 (0.15) | 896 | 549 | 2.497 | 2.803 | 0.29 (0.16) | (-0.04, 0.62) | 0.086 | 0.962 | 0.10 | 0.33 (0.16) | (0.02, 0.65) | 0.037 | 0.748 | 0.12 |
| | | Moderate risk | 33.01 (0.35) | 33.11 (0.23) | 217 | 135 | 2.497 | 2.803 | -0.10 (0.28) | (-0.67, 0.47) | 0.728 | 0.766 | -0.04 | -0.04 (0.27) | (-0.57, 0.50) | 0.888 | 0.906 | -0.01 |
| | | High risk | 33.20 (0.30) | 32.69 (0.58) | 102 | 55 | 2.497 | 2.803 | 0.52 (0.60) | (-0.70, 1.73) | 0.396 | 0.920 | 0.18 | 0.71 (0.61) | (-0.52, 1.95) | 0.252 | 0.969 | 0.25 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 2.497 | 2.803 | 0.39 (0.32) | (-0.26, 1.03) | 0.236 | 0.362 | 0.14 | 0.37 (0.33) | (-0.30, 1.04) | 0.270 | 0. | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Household Risk Index | ASPI-Aggressive | Low/No risk | 48.49 (0.38) | 48.52 (0.45) | 710 | 445 | 7.715 | 7.435 | -0.03 (0.56) | (-1.15, 1.10) | 0.962 | 0.962 | 0.00 | -0.20 (0.51) | (-1.23, 0.83) | 0.696 | 0.943 | -0.03 |
| | | Moderate risk | 49.02 (0.76) | 51.54 (1.09) | 159 | 112 | 7.715 | 7.435 | -2.52 (1.47) | (-5.47, 0.43) | 0.092 | 0.229 | -0.34 | -2.23 (1.43) | (-5.11, 0.64) | 0.125 | 0.313 | -0.30 |
| | | High risk | 51.38 (1.42) | 50.65 (2.26) | 76 | 43 | 7.715 | 7.435 | 0.73 (2.78) | (-4.87, 6.32) | 0.795 | 0.920 | 0.10 | -0.13 (2.67) | (-5.50, 5.25) | 0.963 | 0.995 | -0.02 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 7.715 | 7.435 | 2.50 (1.54) | (-0.61, 5.60) | 0.112 | 0.249 | 0.34 | 2.03 (1.48) | (-0.94, 5.00) | 0.176 | 0.351 | 0.27 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 7.715 | 7.435 | -0.75 (2.84) | (-6.47, 4.96) | 0.792 | 0.970 | -0.10 | -0.08 (2.73) | (-5.56, 5.41) | 0.978 | 0.978 | -0.01 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 7.715 | 7.435 | -3.25 (3.37) | (-10.03, 3.53) | 0.340 | 0.558 | -0.44 | -2.11 (3.28) | (-8.71, 4.50) | 0.524 | 0.710 | -0.28 |
| | ASPI-Inattentive/Hyperactive | Low/No risk | 50.28 (0.44) | 50.24 (0.53) | 722 | 449 | 8.456 | 8.430 | 0.03 (0.63) | (-1.23, 1.29) | 0.957 | 0.962 | 0.00 | -0.07 (0.60) | (-1.27, 1.14) | 0.913 | 0.961 | -0.01 |
| | | Moderate risk | 50.21 (0.74) | 52.71 (0.98) | 163 | 111 | 8.456 | 8.430 | -2.50 (1.17) | (-4.84, -0.16) | 0.037 | 0.139 | -0.30 | -2.03 (1.15) | (-4.34, 0.28) | 0.084 | 0.238 | -0.24 |
| | | High risk | 51.67 (1.59) | 50.54 (1.09) | 78 | 43 | 8.456 | 8.430 | 1.13 (1.90) | (-2.68, 4.94) | 0.555 | 0.920 | 0.13 | 0.21 (1.81) | (-3.42, 3.84) | 0.908 | 0.995 | 0.02 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 8.456 | 8.430 | 2.53 (3.11) | (-0.11, 5.17) | 0.059 | 0.226 | 0.30 | 1.97 (1.26) | (-0.56, 4.49) | 0.125 | 0.332 | 0.23 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 8.456 | 8.430 | -1.09 (2.05) | (-5.21, 3.03) | 0.596 | 0.970 | -0.13 | -0.28 (1.89) | (-4.07, 3.51) | 0.884 | 0.978 | -0.03 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 8.456 | 8.430 | -3.63 (2.15) | (-7.95, 0.69) | 0.097 | 0.558 | -0.43 | -2.24 (2.06) | (-6.38, 1.90) | 0.282 | 0.710 | -0.27 |
| | ASPI-Withdrawn/Low Energy | Low/No risk | 49.45 (0.34) | 48.73 (0.53) | 719 | 450 | 6.998 | 6.832 | 0.72 (0.65) | (-0.58, 2.02) | 0.272 | 0.962 | 0.11 | 0.62 (0.62) | (-0.63, 1.87) | 0.322 | 0.943 | 0.09 |
| | | Moderate risk | 49.24 (0.52) | 48.63 (0.92) | 162 | 111 | 6.998 | 6.832 | 0.61 (1.03) | (-1.46, 2.69) | 0.556 | 0.674 | 0.09 | 0.44 (0.91) | (-1.40, 2.27) | 0.634 | 0.792 | 0.06 |
| | | High risk | 50.55 (0.77) | 52.86 (1.89) | 79 | 43 | 6.998 | 6.832 | -2.31 (2.09) | (-6.52, 1.90) | 0.275 | 0.920 | -0.34 | -2.39 (2.07) | (-6.56, 1.77) | 0.254 | 0.969 | -0.35 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 6.998 | 6.832 | 0.11 (1.30) | (-2.51, 2.72) | 0.935 | 0.935 | 0.02 | 0.18 (1.13) | (-2.10, 2.46) | 0.873 | 0.873 | 0.03 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 6.998 | 6.832 | 3.03 (2.24) | (-1.47, 7.53) | 0.182 | 0.970 | 0.44 | 3.01 (2.24) | (-1.49, 7.51) | 0.185 | 0.968 | 0.44 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 6.998 | 6.832 | 2.92 (2.18) | (-1.45, 7.30) | 0.185 | 0.558 | 0.43 | 2.83 (2.10) | (-1.40, 7.06) | 0.185 | 0.710 | 0.41 |
| | ASPI-Oppositional | Low/No risk | 48.06 (0.41) | 47.53 (0.42) | 718 | 451 | 7.752 | 7.935 | 0.53 (0.62) | (-0.72, 1.78) | 0.399 | 0.962 | 0.07 | 0.44 (0.59) | (-0.75, 1.63) | 0.460 | 0.943 | 0.06 |
| | | Moderate risk | 48.91 (0.77) | 51.19 (1.32) | 162 | 112 | 7.752 | 7.935 | -2.28 (1.63) | (-5.56, 1.00) | 0.168 | 0.336 | -0.29 | -2.03 (1.58) | (-5.22, 1.16) | 0.206 | 0.375 | -0.26 |
| | | High risk | 50.35 (1.27) | 49.43 (3.12) | 78 | 43 | 7.752 | 7.935 | 0.93 (3.38) | (-5.86, 7.71) | 0.785 | 0.920 | 0.12 | 0.62 (3.24) | (-5.90, 7.14) | 0.850 | 0.995 | 0.08 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 7.752 | 7.935 | 2.81 (1.73) | (-0.67, 6.29) | 0.111 | 0.249 | 0.35 | 2.47 (1.69) | (-0.92, 5.86) | 0.150 | 0.332 | 0.31 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 7.752 | 7.935 | -0.40 (3.24) | (-6.91, 6.12) | 0.903 | 0.970 | -0.05 | -0.18 (3.08) | (-6.37, 6.01) | 0.954 | 0.978 | -0.02 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 7.752 | 7.935 | -3.21 (3.94) | (-11.12, 4.70) | 0.419 | 0.558 | -0.40 | -2.65 (3.80) | (-10.28, 4.98) | 0.489 | 0.710 | -0.33 |
| | ASPI-Problems with Peer Interactions | Low/No risk | 51.50 (0.66) | 50.92 (0.56) | 743 | 463 | 11.612 | 11.515 | 0.58 (0.88) | (-1.18, 2.35) | 0.508 | 0.962 | 0.05 | 0.46 (0.76) | (-1.08, 1.99) | 0.552 | 0.943 | 0.04 |
| | | Moderate risk | 52.03 (1.17) | 56.86 (1.60) | 168 | 117 | 11.612 | 11.515 | -4.83 (2.13) | (-9.11, -0.55) | 0.028 | 0.139 | -0.42 | -4.09 (2.03) | (-8.17, -0.00) | 0.050 | 0.198 | -0.35 |
| | | High risk | 55.91 (1.77) | 55.39 (3.41) | 81 | 45 | 11.612 | 11.515 | 0.52 (3.97) | (-7.46, 8.50) | 0.896 | 0.943 | 0.05 | -0.88 (3.78) | (-8.49, 6.72) | 0.816 | 0.995 | -0.08 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 11.612 | 11.515 | 5.41 (2.21) | (0.98, 9.85) | 0.018 | 0.176 | 0.47 | 4.54 (2.08) | (0.37, 8.72) | 0.033 | 0.174 | 0.39 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 11.612 | 11.515 | 0.06 (3.97) | (-7.91, 8.04) | 0.987 | 0.01 | 1.34 (3.79) | (-6.27, 8.95) | 0.725 | 0.978 | 0.12 | |
| | | Moderate risk - high risk | (.) | (.) | . | . | 11.612 | 11.515 | -5.35 (4.89) | (-15.18, 4.48) | 0.279 | 0.558 | -0.46 | -3.20 (4.63) | (-12.50, 6.10) | 0.492 | 0.710 | -0.28 |
| | ASPI-Shy/Socially Reticent | Low/No risk | 47.29 (0.36) | 46.86 (0.46) | 721 | 451 | 7.546 | 7.107 | 0.43 (0.57) | (-0.72, 1.57) | 0.457 | 0.962 | 0.06 | 0.40 (0.54) | (-0.69, 1.48) | 0.469 | 0.943 | 0.06 |
| | | Moderate risk | 47.41 (0.79) | 46.79 (0.83) | 162 | 111 | 7.546 | 7.107 | 0.63 (1.10) | (-1.59, 2.84) | 0.573 | 0.674 | 0.09 | 0.20 (0.93) | (-1.66, 2.06) | 0.833 | 0.906 | 0.03 |
| | | High risk | 47.91 (1.07) | 50.56 (1.97) | 79 | 43 | 7.546 | 7.107 | -2.65 (2.29) | (-7.24, 1.95) | 0.252 | 0.920 | 0.37 | -2.88 (2.33) | (-7.57, 1.81) | 0.223 | 0.969 | 0.41 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 7.546 | 7.107 | -0.20 (1.21) | (-2.63, 2.23) | 0.870 | 0.9 | | | | | | |

Exhibit 2: 2006 Social-Emotional Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|----------------------------|---|-------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Urbanicity (cont'd) | Hyperactive Behavior | Not Urban | 1.46 (0.17) | 1.83 (0.14) | 211 | 135 | 1.479 | 1.581 | -0.36 (0.20) | (-0.77, 0.04) | 0.077 | 0.923 | -0.23 | -0.24 (0.16) | (-0.56, 0.08) | 0.145 | 0.845 | -0.15 |
| | | Urban | 1.36 (0.06) | 1.40 (0.10) | 1006 | 604 | 1.479 | 1.581 | -0.04 (0.10) | (-0.23, 0.15) | 0.680 | 0.936 | -0.03 | -0.07 (0.08) | (-0.23, 0.08) | 0.347 | 0.844 | -0.05 |
| | | Not urban - urban | (.) | (.) | . | . | 1.479 | 1.581 | -0.32 (0.23) | (-0.79, 0.15) | 0.174 | 1.000 | -0.20 | -0.16 (0.19) | (-0.54, 0.22) | 0.391 | 0.986 | -0.10 |
| | Closeness | Not Urban | 33.15 (0.18) | 32.92 (0.31) | 210 | 135 | 2.497 | 2.803 | 0.23 (0.36) | (-0.50, 0.96) | 0.527 | 0.923 | 0.08 | 0.22 (0.37) | (-0.53, 0.97) | 0.565 | 0.845 | 0.08 |
| | | Urban | 33.36 (0.15) | 33.13 (0.17) | 1005 | 604 | 2.497 | 2.803 | 0.23 (0.15) | (-0.06, 0.52) | 0.120 | 0.936 | 0.08 | 0.31 (0.14) | (0.03, 0.60) | 0.030 | 0.301 | 0.11 |
| | | Not urban - urban | (.) | (.) | . | . | 2.497 | 2.803 | 0.00 (0.42) | (-0.84, 0.84) | 1.000 | 1.000 | 0.00 | -0.10 (0.44) | (-0.98, 0.78) | 0.824 | 0.986 | -0.04 |
| | Conflict | Not Urban | 18.37 (0.57) | 18.11 (0.80) | 210 | 135 | 6.727 | 6.591 | 0.26 (0.91) | (-1.57, 2.08) | 0.778 | 0.923 | 0.04 | 0.61 (0.94) | (-1.28, 2.50) | 0.521 | 0.845 | 0.09 |
| | | Urban | 16.34 (0.36) | 17.07 (0.45) | 1004 | 604 | 6.727 | 6.591 | -0.74 (0.52) | (-1.79, 0.32) | 0.166 | 0.936 | -0.11 | -0.85 (0.46) | (-1.77, 0.07) | 0.068 | 0.455 | -0.13 |
| | | Not urban - urban | (.) | (.) | . | . | 6.727 | 6.591 | 0.99 (0.96) | (-0.94, 2.93) | 0.307 | 1.000 | 0.15 | 1.46 (0.97) | (-0.49, 3.40) | 0.138 | 0.986 | 0.22 |
| | Positive Relationships | Not Urban | 62.67 (0.67) | 62.81 (0.99) | 210 | 135 | 7.675 | 7.638 | -0.14 (1.09) | (-2.34, 2.06) | 0.899 | 0.946 | -0.02 | -0.50 (1.13) | (-2.78, 1.77) | 0.658 | 0.845 | -0.07 |
| | | Urban | 64.91 (0.40) | 64.02 (0.51) | 1005 | 604 | 7.675 | 7.638 | 0.90 (0.54) | (-0.19, 1.98) | 0.103 | 0.936 | 0.12 | 1.11 (0.48) | (0.14, 2.07) | 0.026 | 0.301 | 0.14 |
| | | Not urban - urban | (.) | (.) | . | . | 7.675 | 7.638 | -1.04 (1.17) | (-3.38, 1.31) | 0.378 | 1.000 | -0.14 | -1.61 (1.19) | (-3.99, 0.78) | 0.181 | 0.986 | -0.21 |
| | Social Competencies | Not Urban | 10.96 (0.12) | 10.88 (0.15) | 211 | 135 | 1.321 | 1.278 | 0.08 (0.17) | (-0.27, 0.43) | 0.634 | 0.923 | 0.06 | 0.12 (0.17) | (-0.22, 0.46) | 0.482 | 0.845 | 0.09 |
| | | Urban | 11.18 (0.07) | 11.14 (0.08) | 1006 | 604 | 1.321 | 1.278 | 0.04 (0.10) | (-0.16, 0.24) | 0.684 | 0.936 | 0.03 | 0.08 (0.10) | (-0.12, 0.27) | 0.443 | 0.844 | 0.06 |
| | | Not urban - urban | (.) | (.) | . | . | 1.321 | 1.278 | 0.04 (0.21) | (-0.38, 0.47) | 0.842 | 1.000 | 0.03 | 0.04 (0.20) | (-0.37, 0.45) | 0.835 | 0.986 | 0.03 |
| | Social Skills and Positive Approaches to Learning | Not Urban | 12.57 (0.14) | 12.39 (0.21) | 211 | 135 | 1.672 | 1.647 | 0.19 (0.22) | (-0.25, 0.63) | 0.399 | 0.923 | 0.11 | 0.10 (0.21) | (-0.31, 0.52) | 0.624 | 0.845 | 0.06 |
| | | Urban | 12.58 (0.10) | 12.54 (0.11) | 1005 | 604 | 1.672 | 1.647 | 0.03 (0.13) | (-0.22, 0.29) | 0.792 | 0.936 | 0.02 | 0.04 (0.12) | (-0.21, 0.28) | 0.765 | 0.844 | 0.02 |
| | | Not urban - urban | (.) | (.) | . | . | 1.672 | 1.647 | 0.15 (0.25) | (-0.36, 0.66) | 0.549 | 1.000 | 0.09 | 0.07 (0.24) | (-0.41, 0.55) | 0.783 | 0.986 | 0.04 |
| | Total Problem Behavior | Not Urban | 5.62 (0.37) | 5.77 (0.35) | 211 | 135 | 3.866 | 3.925 | -0.15 (0.53) | (-1.21, 0.92) | 0.779 | 0.923 | -0.04 | 0.12 (0.43) | (-0.74, 0.98) | 0.783 | 0.845 | 0.03 |
| | | Urban | 4.69 (0.16) | 4.82 (0.29) | 1005 | 604 | 3.866 | 3.925 | -0.13 (0.28) | (-0.69, 0.43) | 0.641 | 0.936 | -0.03 | -0.22 (0.22) | (-0.67, 0.22) | 0.321 | 0.844 | -0.06 |
| | | Not urban - urban | (.) | (.) | . | . | 3.866 | 3.925 | -0.02 (0.63) | (-1.29, 1.25) | 0.977 | 1.000 | 0.00 | 0.34 (0.49) | (-0.65, 1.33) | 0.494 | 0.986 | 0.09 |
| | Withdrawn Behavior | Not Urban | 0.88 (0.10) | 0.68 (0.09) | 211 | 135 | 1.006 | 0.923 | 0.20 (0.12) | (-0.05, 0.44) | 0.114 | 0.923 | 0.21 | 0.23 (0.14) | (-0.05, 0.52) | 0.104 | 0.845 | 0.25 |
| | | Urban | 0.70 (0.04) | 0.72 (0.07) | 1005 | 604 | 1.006 | 0.923 | -0.02 (0.06) | (-0.14, 0.10) | 0.751 | 0.936 | -0.02 | -0.04 (0.05) | (-0.14, 0.07) | 0.485 | 0.844 | -0.04 |
| | | Not urban - urban | (.) | (.) | . | . | 1.006 | 0.923 | 0.22 (0.14) | (-0.06, 0.49) | 0.124 | 1.000 | 0.23 | 0.27 (0.15) | (-0.04, 0.58) | 0.082 | 0.986 | 0.29 |
| | ASPI-Aggressive | Not Urban | 49.33 (0.73) | 49.65 (0.72) | 178 | 114 | 7.715 | 7.435 | -0.32 (1.16) | (-2.65, 2.01) | 0.781 | 0.923 | -0.04 | -0.24 (0.94) | (-2.14, 1.65) | 0.796 | 0.845 | -0.03 |
| | | Urban | 48.67 (0.43) | 49.03 (0.51) | 767 | 486 | 7.715 | 7.435 | -0.35 (0.65) | (-1.67, 0.96) | 0.592 | 0.936 | -0.05 | -0.62 (0.59) | (-1.81, 0.56) | 0.295 | 0.844 | -0.08 |
| | | Not urban - urban | (.) | (.) | . | . | 7.715 | 7.435 | 0.03 (1.41) | (-2.81, 2.87) | 0.984 | 1.000 | 0.00 | 0.38 (1.18) | (-2.00, 2.76) | 0.750 | 0.986 | 0.05 |
| | ASPI-Inattentive/Hyperactive | Not Urban | 51.04 (0.46) | 51.45 (1.03) | 180 | 114 | 8.456 | 8.430 | -0.40 (1.23) | (-2.87, 2.06) | 0.743 | 0.923 | -0.05 | -0.43 (1.18) | (-2.80, 1.93) | 0.714 | 0.845 | -0.05 |
| | | Urban | 50.20 (0.40) | 50.48 (0.50) | 783 | 489 | 8.456 | 8.430 | -0.27 (0.66) | (-1.60, 1.06) | 0.683 | 0.936 | -0.03 | -0.46 (0.61) | (-1.69, 0.77) | 0.457 | 0.844 | -0.05 |
| | | Not urban - urban | (.) | (.) | . | . | 8.456 | 8.430 | -0.13 (1.46) | (-3.06, 2.80) | 0.928 | 1.000 | -0.02 | 0.02 (0.35) | (-2.68, 2.73) | 0.986 | 0.986 | 0.00 |
| | ASPI-Withdrawn/Low Energy | Not Urban | 49.22 (0.67) | 49.28 (0.62) | 180 | 115 | 6.998 | 6.832 | -0.07 (1.03) | (-2.14, 2.01) | 0.947 | 0.947 | -0.01 | -0.27 (1.07) | (-2.42, 1.89) | 0.803 | 0.845 | -0.04 |
| | | Urban | 49.59 (0.35) | 48.86 (0.52) | 780 | 489 | 6.998 | 6.832 | 0.73 (0.69) | (-0.66, 2.13) | 0.296 | 0.936 | 0.11 | 0.63 (0.65) | (-0.68, 1.94) | 0.339 | 0.844 | 0.09 |
| | | Not urban - urban | (.) | (.) | . | . | 6.998 | 6.832 | -0.80 (1.41) | (-3.64, 2.03) | 0.572 | 1.000 | -0.12 | 0.90 (1.40) | (-3.72, 1.92) | 0.525 | 0.986 | -0.13 |
| | ASPI-Oppositional | Not Urban | 49.08 (0.67) | 48.01 (0.57) | 178 | 116 | 7.752 | 7.935 | 0.07 (0.97) | (-0.88, 0.30) | 0.275 | 0.923 | 0.14 | 1.19 (1.01) | (-0.85, 3.23) | 0.247 | 0.845 | 0.15 |
| | | Urban | 48.20 (0.46) | | | | | | | | | | | | | | | |

Exhibit 3: 2006 Health Domain Subgroup Impact Estimates for the 3-Year-Old Cohort

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-----------------------------------|---|-------------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|---|---------|----------------------------|----------------------------|---|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms | Child Received Dental Care | No depressive symptoms | 0.74 (0.02) | 0.74 (0.04) | 584 | 348 | 0.437 | 0.446 | 0.00 (0.04) | (-0.08, 0.08) | 0.964 | 0.964 | 0.00 | -0.01 (0.04) | (-0.08, 0.07) | 0.860 | 0.884 | -0.01 |
| | | Mild depressive symptoms | 0.73 (0.05) | 0.74 (0.05) | 289 | 140 | 0.437 | 0.446 | -0.01 (0.07) | (-0.15, 0.13) | 0.885 | 0.885 | -0.02 | -0.03 (0.07) | (-0.17, 0.11) | 0.698 | 0.829 | -0.06 |
| | | Moderate depressive symptoms | 0.73 (0.04) | 0.67 (0.10) | 141 | 78 | 0.437 | 0.446 | 0.05 (0.11) | (-0.16, 0.27) | 0.617 | 0.838 | 0.12 | 0.03 (0.11) | (-0.20, 0.26) | 0.782 | 0.951 | 0.07 |
| | | Severe depressive symptoms | 0.71 (0.07) | 0.58 (0.09) | 97 | 57 | 0.437 | 0.446 | 0.13 (0.13) | (-0.13, 0.38) | 0.325 | 0.466 | 0.28 | 0.15 (0.10) | (-0.06, 0.35) | 0.152 | 0.379 | 0.33 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | 0.01 (0.09) | (-0.16, 0.18) | 0.889 | 0.889 | 0.03 | 0.02 (0.08) | (-0.14, 0.18) | 0.802 | 0.802 | 0.05 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | -0.05 (0.11) | (-0.28, 0.17) | 0.637 | 0.760 | -0.12 | -0.04 (0.11) | (-0.27, 0.19) | 0.739 | 0.774 | -0.09 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | -0.13 (0.14) | (-0.40, 0.15) | 0.370 | 0.535 | -0.28 | -0.15 (0.11) | (-0.38, 0.07) | 0.170 | 0.426 | -0.35 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | -0.07 (0.14) | (-0.35, 0.22) | 0.651 | 0.814 | -0.15 | -0.06 (0.14) | (-0.35, 0.23) | 0.685 | 0.714 | -0.13 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | -0.14 (0.14) | (-0.42, 0.15) | 0.335 | 0.555 | -0.31 | -0.18 (0.12) | (-0.42, 0.07) | 0.156 | 0.389 | -0.39 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.437 | 0.446 | -0.07 (0.16) | (-0.39, 0.25) | 0.654 | 0.654 | -0.16 | -0.12 (0.15) | (-0.42, 0.19) | 0.448 | 0.560 | -0.26 |
| | Child's Overall Health Status Is Excellent/Good | No depressive symptoms | 0.85 (0.02) | 0.87 (0.02) | 585 | 349 | 0.364 | 0.366 | -0.02 (0.03) | (-0.08, 0.04) | 0.500 | 0.964 | -0.06 | -0.00 (0.03) | (-0.07, 0.06) | 0.884 | 0.884 | -0.01 |
| | | Mild depressive symptoms | 0.85 (0.03) | 0.84 (0.04) | 290 | 142 | 0.364 | 0.366 | 0.01 (0.05) | (-0.09, 0.12) | 0.835 | 0.885 | 0.03 | 0.03 (0.05) | (-0.07, 0.13) | 0.556 | 0.829 | 0.08 |
| | | Moderate depressive symptoms | 0.85 (0.04) | 0.83 (0.06) | 142 | 78 | 0.364 | 0.366 | 0.02 (0.07) | (-0.13, 0.17) | 0.787 | 0.838 | 0.05 | 0.06 (0.08) | (-0.09, 0.22) | 0.396 | 0.951 | 0.18 |
| | | Severe depressive symptoms | 0.79 (0.07) | 0.62 (0.09) | 97 | 58 | 0.364 | 0.366 | 0.17 (0.12) | (-0.06, 0.40) | 0.144 | 0.359 | 0.47 | 0.13 (0.11) | (-0.09, 0.35) | 0.246 | 0.410 | 0.35 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.03 (0.06) | (-0.15, 0.09) | 0.587 | 0.889 | -0.09 | -0.03 (0.06) | (-0.15, 0.08) | 0.561 | 0.802 | -0.09 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.04 (0.08) | (-0.20, 0.12) | 0.618 | 0.760 | -0.11 | -0.07 (0.08) | (-0.24, 0.10) | 0.419 | 0.774 | -0.19 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.19 (0.12) | (-0.44, 0.06) | 0.127 | 0.317 | -0.53 | -0.13 (0.12) | (-0.37, 0.11) | 0.265 | 0.442 | -0.37 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.01 (0.09) | (-0.20, 0.18) | 0.925 | 0.925 | -0.02 | -0.04 (0.10) | (-0.23, 0.16) | 0.714 | 0.714 | -0.10 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.16 (0.11) | (-0.39, 0.07) | 0.166 | 0.415 | -0.44 | -0.10 (0.11) | (-0.32, 0.12) | 0.361 | 0.601 | -0.27 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.364 | 0.366 | -0.15 (0.14) | (-0.43, 0.13) | 0.283 | 0.509 | -0.41 | -0.06 (0.14) | (-0.34, 0.21) | 0.642 | 0.642 | -0.18 |
| | Child Had Care for Injury Last Month | No depressive symptoms | 0.08 (0.02) | 0.07 (0.02) | 584 | 347 | 0.283 | 0.258 | 0.00 (0.03) | (-0.05, 0.06) | 0.858 | 0.964 | 0.02 | 0.01 (0.03) | (-0.04, 0.07) | 0.691 | 0.884 | 0.04 |
| | | Mild depressive symptoms | 0.07 (0.03) | 0.07 (0.02) | 289 | 142 | 0.283 | 0.258 | -0.01 (0.03) | (-0.07, 0.06) | 0.873 | 0.885 | -0.02 | -0.01 (0.03) | (-0.08, 0.06) | 0.829 | 0.829 | -0.03 |
| | | Moderate depressive symptoms | 0.13 (0.04) | 0.02 (0.02) | 142 | 78 | 0.283 | 0.258 | 0.11 (0.04) | (0.02, 0.19) | 0.012 | 0.059 | 0.41 | 0.11 (0.04) | (0.03, 0.19) | 0.011 | 0.056 | 0.41 |
| | | Severe depressive symptoms | 0.11 (0.04) | 0.07 (0.03) | 96 | 57 | 0.283 | 0.258 | 0.04 (0.06) | (-0.07, 0.16) | 0.472 | 0.472 | 0.16 | 0.04 (0.06) | (-0.09, 0.17) | 0.548 | 0.547 | 0.15 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | 0.01 (0.04) | (-0.08, 0.10) | 0.813 | 0.889 | 0.04 | 0.02 (0.05) | (-0.08, 0.11) | 0.699 | 0.802 | 0.07 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | -0.10 (0.05) | (-0.20, 0.00) | 0.053 | 0.266 | -0.39 | -0.10 (0.05) | (-0.20, 0.00) | 0.060 | 0.300 | -0.37 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | -0.04 (0.06) | (-0.16, 0.08) | 0.535 | 0.535 | -0.14 | -0.03 (0.06) | (-0.15, 0.10) | 0.667 | 0.667 | -0.11 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | -0.11 (0.04) | (-0.20, -0.02) | 0.017 | 0.082 | -0.43 | -0.11 (0.05) | (-0.21, -0.02) | 0.019 | 0.096 | -0.44 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | -0.05 (0.06) | (-0.17, 0.08) | 0.444 | 0.555 | -0.18 | -0.05 (0.07) | (-0.18, 0.09) | 0.495 | 0.618 | -0.18 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.283 | 0.258 | 0.06 (0.06) | (-0.23, 0.10) | 0.305 | 0.509 | 0.24 | 0.07 (0.07) | (-0.06, 0.20) | 0.304 | 0.560 | 0.27 |
| | Child Has Health Insurance Coverage | No depressive symptoms | 0.92 (0.02) | 0.92 (0.02) | 585 | 349 | 0.248 | 0.275 | 0.00 (0.02) | (-0.04, 0.05) | 0.830 | 0.964 | 0.02 | 0.01 (0.02) | (-0.03, 0.04) | 0.768 | 0.884 | 0.02 |
| | | Mild depressive symptoms | 0.96 (0.01) | 0.94 (0.03) | 291 | 142 | 0.248 | 0.275 | 0.02 (0.03) | (-0.04, 0.09) | 0.466 | 0.885 | 0.09 | 0.02 (0.03) | (-0.04, 0.09) | 0.474 | 0.829 | 0.09 |
| | | Moderate depressive symptoms | 0.90 (0.04) | 0.92 (0.04) | 142 | 78 | 0.248 | 0.275 | -0.01 (0.06) | (-0.13, 0.10) | 0.806 | 0.838 | -0.05 | -0.01 (0.06) | (-0.13, 0.10) | 0.803 | 0.951 | -0.05 |
| | | Severe depressive symptoms | 0.95 (0.02) | 0.90 (0.05) | 96 | 58 | 0.248 | 0.275 | 0.05 (0.06) | (-0.06, 0.16) | 0.373 | 0.466 | 0.18 | 0.05 (0.06) | (-0.06, 0.17) | 0.370 | 0.462 | 0.19 |
| | | No symptoms - mild symptoms</ | | | | | | | | | | | | | | | | |

Exhibit 3: 2006 Health Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|--------------------------------|---|-----------------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|-------------------------|---------|----------------------------|--------|----------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Special Needs (cont'd) | Child's Overall Health Status Is Excellent/Good | Not special needs | 0.85 (0.02) | 0.86 (0.02) | 1052 | 662 | 0.364 | 0.366 | -0.01 (0.02) | (-0.06, 0.03) | 0.509 | 0.848 | -0.04 | -0.00 (0.02) | (-0.05, 0.04) | 0.906 | 0.990 | -0.01 |
| | | Special needs | 0.82 (0.04) | 0.68 (0.08) | 165 | 77 | 0.364 | 0.366 | 0.14 (0.09) | (-0.04, 0.33) | 0.130 | 0.517 | 0.39 | 0.16 (0.10) | (-0.03, 0.35) | 0.096 | 0.280 | 0.44 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.364 | 0.366 | -0.16 (0.10) | (-0.36, 0.04) | 0.117 | 0.585 | -0.44 | -0.16 (0.10) | (-0.37, 0.04) | 0.116 | 0.466 | -0.45 |
| | Child Had Care for Injury Last Month | Not special needs | 0.09 (0.01) | 0.07 (0.01) | 1048 | 659 | 0.28 | 0.26 | 0.02 (0.02) | (-0.02, 0.05) | 0.328 | 0.819 | 0.07 | 0.02 (0.02) | (-0.01, 0.05) | 0.169 | 0.696 | 0.09 |
| | | Special needs | 0.09 (0.02) | 0.08 (0.04) | 165 | 76 | 0.28 | 0.26 | 0.00 (0.03) | (-0.07, 0.07) | 0.908 | 0.908 | 0.02 | -0.01 (0.04) | (-0.10, 0.07) | 0.743 | 0.743 | -0.06 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.28 | 0.26 | 0.01 (0.03) | (-0.05, 0.08) | 0.663 | 0.808 | 0.05 | 0.04 (0.04) | (-0.04, 0.12) | 0.355 | 0.589 | 0.14 |
| | Child Has Health Insurance Coverage | Not special needs | 0.93 (0.01) | 0.92 (0.01) | 1050 | 662 | 0.248 | 0.275 | 0.02 (0.01) | (-0.01, 0.04) | 0.160 | 0.799 | 0.06 | 0.01 (0.01) | (-0.01, 0.04) | 0.279 | 0.696 | 0.05 |
| | | Special needs | 0.94 (0.02) | 0.94 (0.04) | 166 | 77 | 0.248 | 0.275 | 0.01 (0.04) | (-0.08, 0.10) | 0.884 | 0.908 | 0.02 | 0.02 (0.05) | (-0.08, 0.12) | 0.679 | 0.743 | 0.07 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.248 | 0.275 | 0.01 (0.05) | (-0.08, 0.10) | 0.808 | 0.808 | 0.04 | -0.01 (0.05) | (-0.10, 0.09) | 0.906 | 0.906 | -0.02 |
| | Child Needs Ongoing Care | Not special needs | 0.15 (0.02) | 0.15 (0.02) | 1048 | 661 | 0.367 | 0.375 | -0.00 (0.02) | (-0.05, 0.04) | 0.929 | 0.929 | -0.01 | -0.00 (0.02) | (-0.05, 0.04) | 0.921 | 0.990 | -0.01 |
| | | Special needs | 0.25 (0.04) | 0.32 (0.07) | 164 | 76 | 0.367 | 0.375 | -0.07 (0.06) | (-0.20, 0.02) | 0.265 | 0.517 | -0.20 | -0.08 (0.05) | (-0.17, 0.02) | 0.112 | 0.280 | -0.21 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.367 | 0.375 | 0.07 (0.07) | (-0.07, 0.21) | 0.322 | 0.752 | 0.19 | 0.08 (0.06) | (-0.04, 0.19) | 0.186 | 0.466 | 0.20 |
| Child's Home Language | Child Received Dental Care | Not English | 0.76 (0.04) | 0.72 (0.05) | 286 | 178 | 0.437 | 0.446 | 0.04 (0.05) | (-0.07, 0.15) | 0.474 | 0.592 | 0.09 | 0.02 (0.06) | (-0.11, 0.14) | 0.791 | 0.808 | 0.04 |
| | | English | 0.74 (0.02) | 0.73 (0.03) | 928 | 557 | 0.437 | 0.446 | 0.01 (0.03) | (-0.04, 0.07) | 0.691 | 0.992 | 0.02 | 0.00 (0.03) | (-0.05, 0.06) | 0.874 | 0.874 | 0.01 |
| | | Not English - English | (.) | (.) | . | . | 0.437 | 0.446 | 0.03 (0.06) | (-0.08, 0.14) | 0.608 | 0.760 | 0.06 | 0.01 (0.06) | (-0.12, 0.14) | 0.849 | 0.943 | 0.03 |
| | Child's Overall Health Status Is Excellent/Good | Not English | 0.83 (0.03) | 0.82 (0.04) | 287 | 179 | 0.364 | 0.366 | 0.01 (0.04) | (-0.07, 0.09) | 0.800 | 0.800 | 0.03 | 0.02 (0.04) | (-0.07, 0.10) | 0.662 | 0.808 | 0.05 |
| | | English | 0.85 (0.01) | 0.85 (0.02) | 930 | 560 | 0.364 | 0.366 | 0.00 (0.03) | (-0.05, 0.05) | 0.992 | 0.992 | 0.00 | 0.02 (0.02) | (-0.03, 0.06) | 0.520 | 0.866 | 0.04 |
| | | Not English - English | (.) | (.) | . | . | 0.364 | 0.366 | 0.01 (0.05) | (-0.09, 0.11) | 0.837 | 0.837 | 0.03 | 0.00 (0.05) | (-0.10, 0.10) | 0.943 | 0.943 | 0.01 |
| | Child Had Care for Injury Last Month | Not English | 0.11 (0.03) | 0.06 (0.02) | 285 | 179 | 0.283 | 0.258 | 0.06 (0.02) | (0.01, 0.11) | 0.026 | 0.131 | 0.22 | 0.05 (0.02) | (0.00, 0.10) | 0.033 | 0.167 | 0.21 |
| | | English | 0.08 (0.02) | 0.08 (0.02) | 928 | 556 | 0.283 | 0.258 | 0.00 (0.02) | (-0.04, 0.05) | 0.883 | 0.992 | 0.01 | 0.01 (0.02) | (-0.04, 0.05) | 0.761 | 0.874 | 0.02 |
| | | Not English - English | (.) | (.) | . | . | 0.283 | 0.258 | 0.05 (0.03) | (-0.02, 0.12) | 0.129 | 0.323 | 0.21 | 0.05 (0.03) | (-0.02, 0.11) | 0.149 | 0.373 | 0.18 |
| | Child Has Health Insurance Coverage | Not English | 0.89 (0.03) | 0.86 (0.03) | 287 | 179 | 0.248 | 0.275 | 0.03 (0.03) | (-0.03, 0.09) | 0.272 | 0.454 | 0.12 | 0.01 (0.03) | (-0.06, 0.08) | 0.808 | 0.808 | 0.03 |
| | | English | 0.95 (0.01) | 0.94 (0.01) | 929 | 560 | 0.248 | 0.275 | 0.01 (0.01) | (-0.02, 0.04) | 0.455 | 0.992 | 0.04 | 0.02 (0.01) | (-0.01, 0.05) | 0.218 | 0.545 | 0.06 |
| | | Not English - English | (.) | (.) | . | . | 0.248 | 0.275 | 0.02 (0.04) | (-0.05, 0.09) | 0.525 | 0.760 | 0.08 | -0.01 (0.04) | (-0.09, 0.07) | 0.812 | 0.943 | -0.03 |
| | Child Needs Ongoing Care | Not English | 0.09 (0.03) | 0.04 (0.02) | 287 | 179 | 0.367 | 0.375 | 0.05 (0.04) | (-0.02, 0.12) | 0.187 | 0.454 | 0.13 | 0.05 (0.03) | (-0.02, 0.12) | 0.153 | 0.383 | 0.13 |
| | | English | 0.18 (0.02) | 0.21 (0.02) | 925 | 558 | 0.367 | 0.375 | -0.03 (0.02) | (-0.07, 0.02) | 0.302 | 0.992 | -0.07 | -0.03 (0.02) | (-0.07, 0.02) | 0.190 | 0.545 | -0.08 |
| | | Not English - English | (.) | (.) | . | . | 0.367 | 0.375 | 0.07 (0.04) | (-0.01, 0.16) | 0.087 | 0.323 | 0.19 | 0.08 (0.04) | (-0.00, 0.16) | 0.050 | 0.250 | 0.21 |
| Mother's Race/Ethnicity | Child Received Dental Care | White/Other | 0.73 (0.02) | 0.73 (0.05) | 376 | 256 | 0.437 | 0.446 | 0.00 (0.04) | (-0.08, 0.09) | 0.959 | 0.959 | 0.00 | -0.01 (0.05) | (-0.10, 0.08) | 0.870 | 0.870 | -0.02 |
| | | Black | 0.74 (0.03) | 0.70 (0.04) | 450 | 248 | 0.437 | 0.446 | 0.05 (0.05) | (-0.05, 0.14) | 0.346 | 0.850 | 0.10 | 0.05 (0.04) | (-0.04, 0.14) | 0.258 | 0.644 | 0.12 |
| | | Hispanic | 0.76 (0.04) | 0.76 (0.04) | 388 | 231 | 0.437 | 0.446 | 0.00 (0.05) | (-0.09, 0.09) | 0.962 | 0.962 | 0.00 | -0.02 (0.05) | (-0.12, 0.07) | 0.613 | 0.766 | -0.05 |
| | White/Other - Black | White/Other - Black | (.) | (.) | . | . | 0.437 | 0.446 | -0.04 (0.06) | (-0.17, 0.08) | 0.487 | 0.837 | -0.10 | -0.06 (0.07) | (-0.19, 0.07) | 0.373 | 0.771 | -0.13 |
| | | White/Other - Hispanic | (.) | (.) | . | . | 0.437 | 0.446 | 0.00 (0.06) | (-0.12, 0.12) | 1.000 | 1.000 | 0.00 | 0.02 (0.06) | (-0.11, 0.15) | 0.801 | 0.994 | 0.04 |
| | | Black - Hispanic | (.) | (.) | . | . | 0.437 | 0.446 | 0.04 (0.07) | (-0.09, 0.18) | 0.510 | 0.784 | 0.10 | 0.08 (0.06) | (-0.05, 0.20) | 0.230 | 0.930 | 0.17 |
| | Child's Overall Health Status Is Excellent/Good | White/Other | 0.88 (0.03) | | | | | | | | | | | | | | | |

Exhibit 3: 2006 Health Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--------------------------------------|---|-----------------------------|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Household Risk Index (cont'd) | Child's Overall Health Status Is Excellent/Good | Low/No risk | 0.86 (0.02) | 0.85 (0.02) | 897 | 549 | 0.364 | 0.366 | 0.00 (0.02) | (-0.05, 0.05) | 0.909 | 0.909 | 0.01 | 0.01 (0.02) | (-0.04, 0.06) | 0.610 | 0.813 | 0.03 |
| | | Moderate risk | 0.80 (0.04) | 0.80 (0.04) | 218 | 135 | 0.364 | 0.366 | -0.00 (0.06) | (-0.12, 0.12) | 0.991 | 0.991 | 0.00 | 0.04 (0.06) | (-0.08, 0.15) | 0.549 | 0.549 | 0.10 |
| | | High risk | 0.80 (0.07) | 0.77 (0.09) | 102 | 55 | 0.364 | 0.366 | 0.03 (0.11) | (-0.20, 0.26) | 0.790 | 0.923 | 0.08 | 0.06 (0.12) | (-0.17, 0.29) | 0.610 | 0.820 | 0.16 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 0.364 | 0.366 | 0.00 (0.06) | (-0.12, 0.13) | 0.956 | 0.956 | 0.01 | -0.02 (0.06) | (-0.15, 0.10) | 0.715 | 0.715 | -0.06 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 0.364 | 0.366 | -0.03 (0.12) | (-0.27, 0.22) | 0.822 | 0.983 | -0.07 | -0.05 (0.12) | (-0.30, 0.20) | 0.709 | 0.847 | -0.13 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 0.364 | 0.366 | -0.03 (0.13) | (-0.29, 0.23) | 0.810 | 0.810 | -0.08 | -0.02 (0.13) | (-0.28, 0.23) | 0.852 | 0.852 | -0.06 |
| | Child Had Care for Injury Last Month | Low/No risk | 0.09 (0.01) | 0.08 (0.02) | 893 | 546 | 0.283 | 0.258 | 0.02 (0.02) | (-0.03, 0.06) | 0.392 | 0.785 | 0.07 | 0.02 (0.02) | (-0.02, 0.07) | 0.291 | 0.581 | 0.09 |
| | | Moderate risk | 0.08 (0.02) | 0.04 (0.02) | 218 | 134 | 0.283 | 0.258 | 0.04 (0.03) | (-0.02, 0.09) | 0.216 | 0.432 | 0.14 | 0.04 (0.03) | (-0.02, 0.10) | 0.227 | 0.436 | 0.14 |
| | | High risk | 0.04 (0.02) | 0.10 (0.05) | 102 | 55 | 0.283 | 0.258 | -0.06 (0.05) | (-0.15, 0.03) | 0.219 | 0.877 | -0.22 | -0.07 (0.06) | (-0.19, 0.04) | 0.193 | 0.772 | -0.29 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 0.283 | 0.258 | -0.02 (0.03) | (-0.09, 0.05) | 0.619 | 0.825 | -0.07 | -0.01 (0.04) | (-0.08, 0.06) | 0.713 | 0.715 | -0.05 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 0.283 | 0.258 | 0.08 (0.05) | (-0.03, 0.18) | 0.165 | 0.658 | 0.29 | 0.10 (0.06) | (-0.03, 0.23) | 0.135 | 0.538 | 0.38 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 0.283 | 0.258 | 0.09 (0.05) | (-0.02, 0.20) | 0.093 | 0.374 | 0.36 | 0.11 (0.06) | (-0.02, 0.24) | 0.083 | 0.332 | 0.43 |
| | Child Needs Ongoing Care | Low/No risk | 0.14 (0.02) | 0.17 (0.02) | 895 | 548 | 0.367 | 0.375 | -0.02 (0.03) | (-0.08, 0.03) | 0.349 | 0.785 | -0.07 | -0.03 (0.03) | (-0.08, 0.02) | 0.281 | 0.581 | -0.07 |
| | | Moderate risk | 0.21 (0.03) | 0.13 (0.04) | 216 | 134 | 0.367 | 0.375 | 0.08 (0.05) | (-0.02, 0.18) | 0.129 | 0.432 | 0.21 | 0.06 (0.06) | (-0.06, 0.17) | 0.327 | 0.436 | 0.15 |
| | | High risk | 0.20 (0.04) | 0.27 (0.11) | 101 | 55 | 0.367 | 0.375 | -0.07 (0.11) | (-0.30, 0.16) | 0.558 | 0.923 | -0.18 | -0.06 (0.12) | (-0.29, 0.18) | 0.627 | 0.820 | -0.15 |
| | | Low/No risk - moderate risk | (.) | (.) | . | . | 0.367 | 0.375 | -0.10 (0.06) | (-0.22, 0.02) | 0.099 | 0.397 | -0.27 | -0.08 (0.07) | (-0.21, 0.05) | 0.210 | 0.659 | -0.22 |
| | | Low/No risk - high risk | (.) | (.) | . | . | 0.367 | 0.375 | 0.04 (0.12) | (-0.19, 0.28) | 0.718 | 0.983 | 0.11 | 0.03 (0.12) | (-0.22, 0.27) | 0.810 | 0.847 | 0.08 |
| | | Moderate risk - high risk | (.) | (.) | . | . | 0.367 | 0.375 | 0.14 (0.12) | (-0.10, 0.39) | 0.248 | 0.496 | 0.39 | 0.11 (0.13) | (-0.15, 0.38) | 0.394 | 0.602 | 0.30 |
| Urbanicity | Child Received Dental Care | Not Urban | 0.70 (0.04) | 0.76 (0.06) | 210 | 135 | 0.437 | 0.446 | -0.06 (0.07) | (-0.20, 0.08) | 0.391 | 0.391 | -0.13 | -0.05 (0.08) | (-0.20, 0.10) | 0.484 | 0.484 | -0.12 |
| | | Urban | 0.75 (0.02) | 0.72 (0.03) | 1004 | 600 | 0.437 | 0.446 | 0.04 (0.03) | (-0.02, 0.09) | 0.196 | 0.635 | 0.08 | 0.02 (0.03) | (-0.03, 0.08) | 0.425 | 0.945 | 0.05 |
| | | Not urban - urban | (.) | (.) | . | . | 0.437 | 0.446 | -0.10 (0.07) | (-0.24, 0.05) | 0.197 | 0.246 | -0.22 | -0.08 (0.08) | (-0.24, 0.09) | 0.353 | 0.396 | -0.17 |
| | Child's Overall Health Status Is Excellent/Good | Not Urban | 0.89 (0.03) | 0.80 (0.04) | 211 | 135 | 0.364 | 0.366 | 0.09 (0.06) | (-0.03, 0.21) | 0.150 | 0.375 | 0.24 | 0.09 (0.06) | (-0.03, 0.21) | 0.148 | 0.431 | 0.24 |
| | | Urban | 0.83 (0.02) | 0.85 (0.02) | 1006 | 604 | 0.364 | 0.366 | -0.02 (0.02) | (-0.07, 0.03) | 0.406 | 0.648 | -0.05 | -0.00 (0.02) | (-0.05, 0.05) | 0.945 | 0.945 | 0.00 |
| | | Not urban - urban | (.) | (.) | . | . | 0.364 | 0.366 | 0.11 (0.07) | (-0.03, 0.24) | 0.114 | 0.246 | 0.30 | 0.09 (0.07) | (-0.05, 0.22) | 0.196 | 0.396 | 0.24 |
| | Child Had Care for Injury Last Month | Not Urban | 0.04 (0.02) | 0.07 (0.02) | 210 | 132 | 0.283 | 0.258 | -0.02 (0.02) | (-0.07, 0.02) | 0.342 | 0.391 | -0.08 | -0.02 (0.02) | (-0.07, 0.03) | 0.354 | 0.443 | -0.09 |
| | | Urban | 0.10 (0.01) | 0.07 (0.02) | 1003 | 603 | 0.283 | 0.258 | 0.03 (0.02) | (-0.02, 0.07) | 0.254 | 0.635 | 0.10 | 0.03 (0.02) | (-0.02, 0.07) | 0.198 | 0.945 | 0.11 |
| | | Not urban - urban | (.) | (.) | . | . | 0.283 | 0.258 | -0.05 (0.03) | (-0.12, 0.02) | 0.167 | 0.246 | -0.18 | -0.05 (0.03) | (-0.12, 0.02) | 0.157 | 0.396 | -0.19 |
| | Child Has Health Insurance Coverage | Not Urban | 0.94 (0.03) | 0.89 (0.03) | 211 | 135 | 0.248 | 0.275 | 0.05 (0.04) | (-0.04, 0.13) | 0.291 | 0.391 | 0.17 | 0.06 (0.04) | (-0.03, 0.15) | 0.173 | 0.431 | 0.22 |
| | | Urban | 0.93 (0.01) | 0.92 (0.01) | 1005 | 604 | 0.248 | 0.275 | 0.01 (0.01) | (-0.02, 0.04) | 0.518 | 0.648 | 0.03 | 0.01 (0.01) | (-0.02, 0.03) | 0.667 | 0.945 | 0.02 |
| | | Not urban - urban | (.) | (.) | . | . | 0.248 | 0.275 | 0.04 (0.05) | (-0.06, 0.13) | 0.443 | 0.443 | 0.14 | 0.05 (0.05) | (-0.04, 0.14) | 0.249 | 0.396 | 0.19 |
| | Child Needs Ongoing Care | Not Urban | 0.13 (0.03) | 0.19 (0.03) | 210 | 134 | 0.367 | 0.375 | -0.07 (0.04) | (-0.15, 0.02) | 0.126 | 0.375 | -0.18 | -0.05 (0.05) | (-0.14, 0.04) | 0.289 | 0.443 | -0.13 |
| | | Urban | 0.17 (0.02) | 0.16 (0.02) | 1002 | 603 | 0.367 | 0.375 | 0.01 (0.03) | (-0.04, 0.06) | 0.783 | 0.783 | 0.02 | -0.00 (0.02) | (-0.05, 0.04) | 0.936 | 0.945 | -0.01 |
| | | Not urban - urban | (.) | (.) | . | . | 0.367 | 0.375 | -0.07 (0.05) | (-0.18, 0.04) | 0.178 | 0.246 | -0.20 | -0.05 (0.06) | (-0.16, 0.06) | 0.396 | 0.396 | -0.13 |

NOTE: Child has Health Insurance Coverage in the Household Risk Index subgroup was eliminated from the analysis due to small cell size.

Exhibit 4: 2006 Parenting Domain Subgroup Impact Estimates for the 3-Year-Old Cohort

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-----------------------------------|-----------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms | Family Cultural Enrichment Scale | No depressive symptoms | 4.02 (0.11) | 3.85 (0.12) | 583 | 349 | 1.488 | 1.428 | 0.17 (0.13) | (-0.09, 0.43) | 0.189 | 0.329 | 0.12 | 0.12 (0.11) | (-0.09, 0.33) | 0.266 | 0.398 | 0.08 |
| | | Mild depressive symptoms | 3.89 (0.13) | 3.94 (0.22) | 290 | 141 | 1.488 | 1.428 | -0.05 (0.22) | (-0.50, 0.40) | 0.821 | 0.972 | -0.04 | -0.01 (0.19) | (-0.40, 0.38) | 0.959 | 0.971 | -0.01 |
| | | Moderate depressive symptoms | 3.82 (0.16) | 4.23 (0.21) | 142 | 78 | 1.488 | 1.428 | -0.41 (0.26) | (-0.94, 0.13) | 0.132 | 0.321 | -0.28 | -0.42 (0.27) | (-0.96, 0.12) | 0.120 | 0.593 | -0.30 |
| | | Severe depressive symptoms | 3.55 (0.26) | 3.73 (0.23) | 97 | 58 | 1.488 | 1.428 | -0.19 (0.34) | (-0.87, 0.49) | 0.586 | 0.906 | -0.13 | -0.14 (0.34) | (-0.81, 0.54) | 0.685 | 0.893 | -0.10 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.22 (0.27) | (-0.31, 0.76) | 0.403 | 0.571 | 0.16 | 0.13 (0.23) | (-0.33, 0.59) | 0.569 | 0.640 | 0.09 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.58 (0.30) | (-0.03, 1.19) | 0.063 | 0.568 | 0.41 | 0.54 (0.30) | (-0.05, 1.14) | 0.072 | 0.646 | 0.38 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.36 (0.37) | (-0.38, 1.10) | 0.335 | 0.823 | 0.25 | 0.26 (0.35) | (-0.44, 0.96) | 0.465 | 0.841 | 0.18 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.35 (0.29) | (-0.23, 0.94) | 0.226 | 0.509 | 0.25 | 0.41 (0.30) | (-0.18, 1.01) | 0.170 | 0.615 | 0.29 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.13 (0.38) | (-0.63, 0.90) | 0.725 | 0.816 | 0.09 | 0.13 (0.40) | (-0.67, 0.93) | 0.751 | 0.883 | 0.09 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 1.488 | 1.428 | -0.22 (0.38) | (-0.98, 0.54) | 0.561 | 0.871 | -0.15 | -0.29 (0.42) | (-1.13, 0.56) | 0.497 | 0.896 | -0.20 |
| | Parent Read to Child in Last Week | No depressive symptoms | 0.39 (0.03) | 0.37 (0.04) | 585 | 349 | 0.486 | 0.480 | 0.02 (0.04) | (-0.06, 0.10) | 0.607 | 0.761 | 0.04 | -0.00 (0.05) | (-0.09, 0.09) | 0.986 | 0.986 | 0.00 |
| | | Mild depressive symptoms | 0.38 (0.06) | 0.32 (0.06) | 290 | 142 | 0.486 | 0.480 | 0.06 (0.08) | (-0.11, 0.22) | 0.479 | 0.972 | 0.12 | 0.06 (0.08) | (-0.10, 0.23) | 0.457 | 0.971 | 0.13 |
| | | Moderate depressive symptoms | 0.36 (0.06) | 0.28 (0.06) | 142 | 78 | 0.486 | 0.480 | 0.08 (0.09) | (-0.09, 0.25) | 0.344 | 0.578 | 0.17 | 0.08 (0.10) | (-0.12, 0.27) | 0.428 | 0.770 | 0.16 |
| | | Severe depressive symptoms | 0.33 (0.06) | 0.33 (0.07) | 97 | 58 | 0.486 | 0.480 | 0.00 (0.09) | (-0.19, 0.19) | 0.995 | 0.995 | 0.00 | 0.02 (0.10) | (-0.18, 0.22) | 0.874 | 0.893 | 0.03 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | -0.04 (0.09) | (-0.23, 0.15) | 0.694 | 0.781 | -0.08 | -0.06 (0.10) | (-0.26, 0.14) | 0.533 | 0.640 | -0.13 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | -0.06 (0.09) | (-0.24, 0.12) | 0.509 | 0.872 | -0.12 | -0.08 (0.10) | (-0.27, 0.11) | 0.418 | 0.828 | -0.16 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | 0.02 (0.09) | (-0.16, 0.20) | 0.819 | 0.949 | 0.04 | -0.02 (0.09) | (-0.20, 0.17) | 0.855 | 0.855 | -0.03 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | -0.02 (0.12) | (-0.26, 0.21) | 0.847 | 0.847 | -0.05 | -0.02 (0.12) | (-0.27, 0.24) | 0.902 | 0.902 | -0.03 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | 0.06 (0.12) | (-0.18, 0.29) | 0.622 | 0.816 | 0.12 | 0.05 (0.11) | (-0.18, 0.28) | 0.692 | 0.883 | 0.09 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.486 | 0.480 | 0.08 (0.12) | (-0.15, 0.31) | 0.487 | 0.871 | 0.17 | 0.06 (0.12) | (-0.18, 0.31) | 0.617 | 0.896 | 0.13 |
| | Parent Spanked Child in Last Week | No depressive symptoms | 0.18 (0.03) | 0.25 (0.04) | 585 | 349 | 0.406 | 0.424 | -0.07 (0.04) | (-0.15, 0.01) | 0.080 | 0.329 | -0.16 | -0.08 (0.04) | (-0.15, -0.00) | 0.041 | 0.131 | -0.18 |
| | | Mild depressive symptoms | 0.24 (0.04) | 0.22 (0.04) | 289 | 142 | 0.406 | 0.424 | 0.03 (0.06) | (-0.08, 0.14) | 0.609 | 0.972 | 0.07 | 0.02 (0.05) | (-0.08, 0.13) | 0.653 | 0.971 | 0.06 |
| | | Moderate depressive symptoms | 0.24 (0.03) | 0.38 (0.07) | 141 | 78 | 0.406 | 0.424 | -0.14 (0.08) | (-0.31, 0.03) | 0.098 | 0.321 | -0.33 | -0.13 (0.08) | (-0.29, 0.04) | 0.132 | 0.593 | -0.30 |
| | | Severe depressive symptoms | 0.27 (0.05) | 0.18 (0.06) | 97 | 58 | 0.406 | 0.424 | 0.09 (0.07) | (-0.06, 0.24) | 0.247 | 0.906 | 0.21 | 0.10 (0.07) | (-0.05, 0.25) | 0.180 | 0.812 | 0.23 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | -0.10 (0.07) | (-0.24, 0.05) | 0.185 | 0.571 | -0.23 | -0.10 (0.07) | (-0.23, 0.03) | 0.131 | 0.484 | -0.24 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | 0.07 (0.08) | (-0.09, 0.23) | 0.379 | 0.872 | 0.17 | 0.05 (0.08) | (-0.11, 0.21) | 0.540 | 0.828 | 0.12 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | -0.16 (0.08) | (-0.33, 0.01) | 0.067 | 0.601 | -0.37 | -0.18 (0.08) | (-0.34, -0.01) | 0.036 | 0.326 | -0.42 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | 0.17 (0.11) | (-0.05, 0.39) | 0.128 | 0.509 | 0.40 | 0.15 (0.11) | (-0.06, 0.37) | 0.166 | 0.615 | 0.35 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | -0.06 (0.10) | (-0.27, 0.15) | 0.566 | 0.816 | -0.14 | -0.08 (0.10) | (-0.27, 0.12) | 0.449 | 0.883 | -0.18 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.406 | 0.424 | -0.23 (0.11) | (-0.45, -0.01) | 0.042 | 0.376 | -0.54 | -0.23 (0.10) | (-0.42, -0.03) | 0.027 | 0.245 | -0.53 |
| | Parent Used Time Out in Last Week | No depressive symptoms | 0.44 (0.02) | 0.54 (0.04) | 585 | 349 | 0.499 | 0.499 | -0.10 (0.05) | (-0.20, 0.00) | 0.058 | 0.329 | -0.19 | -0.10 (0.05) | (-0.19, -0.00) | 0.044 | 0.131 | -0.19 |
| | | Mild depressive symptoms | 0.54 (0.03) | 0.54 (0.06) | 289 | 142 | 0.499 | 0.499 | 0.01 (0.06) | (-0.12, 0.14) | 0.893 | 0.972 | 0.02 | 0.02 (0.05) | (-0.09, 0.13) | 0.742 | 0.971 | 0.04 |
| | | Moderate depressive symptoms | 0.54 (0.05) | 0.66 (0.06) | 141 | 78 | 0.499 | 0.499 | -0.12 (0.08) | (-0.29, 0.04) | 0.143 | 0.321 | -0.24 | -0.11 (0.08) | (-0.28, 0.06) | 0.200 | 0.601 | -0.22 |
| | | Severe depressive symptoms | 0.44 (0.06) | 0.56 (0.09) | 97 | 58 | 0.499 | 0.499 | -0.12 (0.11) | (-0.33, 0.09) | 0.265 | 0.906 | -0.24 | -0.07 (0.10) | (-0.28, 0.13) | 0.490 | 0.893 | -0.14 |
| | | | | | | | | | | | | | | | | | | |

Exhibit 4: 2006 Parenting Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|--|-----------------------------------|---|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|----------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms (cont'd) | Parenting Style: Permissive | No depressive symptoms | 0.18 (0.03) | 0.20 (0.06) | 579 | 343 | 0.384 | 0.377 | -0.02 (0.04) | (-0.10, 0.07) | 0.719 | 0.761 | -0.04 | -0.01 (0.04) | (-0.08, 0.07) | 0.848 | 0.954 | -0.02 |
| | | Mild depressive symptoms | 0.19 (0.04) | 0.19 (0.06) | 284 | 139 | 0.384 | 0.377 | -0.00 (0.06) | (-0.11, 0.11) | 0.972 | 0.972 | -0.01 | 0.00 (0.06) | (-0.11, 0.12) | 0.971 | 0.971 | 0.01 |
| | | Moderate depressive symptoms | 0.19 (0.04) | 0.17 (0.06) | 139 | 77 | 0.384 | 0.377 | 0.02 (0.07) | (-0.12, 0.17) | 0.753 | 0.968 | 0.06 | 0.05 (0.07) | (-0.10, 0.19) | 0.535 | 0.803 | 0.12 |
| | | Severe depressive symptoms | 0.17 (0.05) | 0.10 (0.06) | 95 | 58 | 0.384 | 0.377 | 0.07 (0.08) | (-0.10, 0.23) | 0.406 | 0.906 | 0.18 | 0.12 (0.08) | (-0.05, 0.28) | 0.157 | 0.812 | 0.31 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.01 (0.08) | (-0.17, 0.14) | 0.858 | 0.858 | -0.04 | -0.01 (0.07) | (-0.16, 0.14) | 0.902 | 0.902 | -0.02 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.04 (0.09) | (-0.21, 0.14) | 0.662 | 0.872 | -0.10 | -0.05 (0.09) | (-0.23, 0.12) | 0.552 | 0.828 | -0.14 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.08 (0.09) | (-0.27, 0.10) | 0.366 | 0.823 | -0.22 | -0.12 (0.09) | (-0.30, 0.05) | 0.165 | 0.743 | -0.33 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.02 (0.08) | (-0.19, 0.15) | 0.770 | 0.847 | -0.07 | -0.04 (0.08) | (-0.21, 0.12) | 0.603 | 0.806 | -0.12 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.07 (0.09) | (-0.25, 0.11) | 0.438 | 0.816 | -0.19 | -0.11 (0.09) | (-0.30, 0.07) | 0.223 | 0.883 | -0.30 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.05 (0.12) | (-0.29, 0.20) | 0.704 | 0.871 | -0.12 | -0.07 (0.12) | (-0.31, 0.17) | 0.552 | 0.896 | -0.19 |
| | Parent Participation | No depressive symptoms | 0.88 (0.02) | 0.83 (0.03) | 474 | 302 | 0.357 | 0.367 | 0.05 (0.04) | (-0.02, 0.13) | 0.172 | 0.329 | 0.15 | 0.05 (0.04) | (-0.02, 0.13) | 0.130 | 0.235 | 0.15 |
| | | Mild depressive symptoms | 0.84 (0.04) | 0.86 (0.05) | 247 | 121 | 0.357 | 0.367 | -0.02 (0.07) | (-0.15, 0.11) | 0.751 | 0.972 | -0.06 | -0.01 (0.06) | (-0.14, 0.11) | 0.811 | 0.971 | -0.04 |
| | | Moderate depressive symptoms | 0.84 (0.04) | 0.84 (0.04) | 113 | 67 | 0.357 | 0.367 | -0.00 (0.06) | (-0.12, 0.12) | 0.980 | 0.993 | 0.00 | 0.00 (0.06) | (-0.12, 0.12) | 0.955 | 0.955 | 0.01 |
| | | Severe depressive symptoms | 0.72 (0.06) | 0.76 (0.08) | 78 | 42 | 0.357 | 0.367 | -0.04 (0.09) | (-0.22, 0.15) | 0.705 | 0.906 | -0.10 | -0.03 (0.10) | (-0.24, 0.18) | 0.783 | 0.893 | -0.08 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.357 | 0.367 | 0.08 (0.07) | (-0.07, 0.22) | 0.317 | 0.571 | 0.20 | 0.07 (0.07) | (-0.07, 0.21) | 0.323 | 0.484 | 0.19 |
| Child's Pre-Academic Skills | Family Cultural Enrichment Scale | No In lowest quartile | 3.95 (0.09) | 3.89 (0.11) | 927 | 557 | 1.488 | 1.428 | 0.06 (0.12) | (-0.19, 0.31) | 0.622 | 0.929 | 0.04 | 0.03 (0.10) | (-0.18, 0.23) | 0.804 | 0.903 | 0.02 |
| | | In lowest quartile | 3.81 (0.14) | 3.79 (0.13) | 288 | 180 | 1.488 | 1.428 | 0.02 (0.17) | (-0.32, 0.36) | 0.906 | 0.906 | 0.01 | -0.03 (0.19) | (-0.41, 0.35) | 0.879 | 0.982 | -0.02 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 1.488 | 1.428 | 0.04 (0.22) | (-0.40, 0.48) | 0.850 | 0.893 | 0.03 | 0.05 (0.22) | (-0.40, 0.51) | 0.810 | 0.911 | 0.04 |
| | Parent Read to Child in Last Week | No In lowest quartile | 0.40 (0.02) | 0.35 (0.03) | 929 | 559 | 0.486 | 0.480 | 0.04 (0.04) | (-0.03, 0.11) | 0.236 | 0.886 | 0.09 | 0.03 (0.04) | (-0.05, 0.11) | 0.488 | 0.903 | 0.06 |
| | | In lowest quartile | 0.34 (0.04) | 0.39 (0.06) | 288 | 180 | 0.486 | 0.480 | -0.05 (0.08) | (-0.22, 0.12) | 0.548 | 0.763 | -0.10 | -0.04 (0.09) | (-0.21, 0.13) | 0.661 | 0.849 | -0.08 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 0.486 | 0.480 | 0.09 (0.09) | (-0.09, 0.27) | 0.314 | 0.516 | 0.19 | 0.06 (0.09) | (-0.12, 0.25) | 0.482 | 0.722 | 0.13 |
| | Parent Spanked Child in Last Week | No In lowest quartile | 0.19 (0.01) | 0.19 (0.02) | 927 | 559 | 0.406 | 0.424 | 0.00 (0.02) | (-0.04, 0.05) | 0.929 | 0.929 | 0.00 | -0.01 (0.02) | (-0.06, 0.04) | 0.777 | 0.903 | -0.02 |
| | | In lowest quartile | 0.27 (0.03) | 0.37 (0.05) | 287 | 180 | 0.406 | 0.424 | -0.11 (0.06) | (-0.23, 0.01) | 0.081 | 0.242 | -0.25 | -0.11 (0.06) | (-0.22, 0.01) | 0.062 | 0.280 | -0.25 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 0.406 | 0.424 | 0.11 (0.06) | (-0.02, 0.24) | 0.094 | 0.516 | 0.26 | 0.10 (0.06) | (-0.02, 0.22) | 0.103 | 0.536 | 0.23 |
| | Parent Used Time Out in Last Week | No In lowest quartile | 0.46 (0.02) | 0.51 (0.03) | 928 | 559 | 0.499 | 0.499 | -0.04 (0.03) | (-0.11, 0.03) | 0.215 | 0.886 | -0.09 | -0.06 (0.03) | (-0.12, 0.01) | 0.090 | 0.808 | -0.11 |
| | | In lowest quartile | 0.52 (0.04) | 0.62 (0.05) | 287 | 180 | 0.499 | 0.499 | -0.10 (0.05) | (-0.20, 0.01) | 0.072 | 0.242 | -0.19 | -0.04 (0.05) | (-0.14, 0.06) | 0.417 | 0.750 | -0.08 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 0.499 | 0.499 | 0.05 (0.06) | (-0.06, 0.17) | 0.344 | 0.516 | 0.11 | -0.01 (0.06) | (-0.13, 0.10) | 0.796 | 0.911 | -0.03 |
| | Parenting Style: Authoritarian | No In lowest quartile | 0.04 (0.01) | 0.06 (0.01) | 913 | 551 | 0.208 | 0.262 | -0.01 (0.01) | (-0.04, 0.01) | 0.295 | 0.886 | -0.05 | -0.01 (0.01) | (-0.04, 0.01) | 0.282 | 0.903 | -0.05 |
| | | In lowest quartile | 0.05 (0.02) | 0.13 (0.04) | 283 | 177 | 0.208 | 0.262 | -0.08 (0.04) | (-0.16, 0.01) | 0.066 | 0.242 | -0.30 | -0.08 (0.04) | (-0.16, 0.00) | 0.058 | 0.280 | -0.30 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 0.208 | 0.262 | 0.07 (0.04) | (-0.02, 0.15) | 0.152 | 0.516 | 0.25 | 0.07 (0.04) | (-0.02, 0.15) | 0.119 | 0.536 | 0.25 |
| | Parenting Style: Authoritative | No In lowest quartile | 0.71 (0.02) | 0.68 (0.04) | 913 | 551 | 0.451 | 0.463 | 0.03 (0.03) | (-0.04, 0.10) | 0.427 | 0.929 | 0.06 | 0.01 (0.03) | (-0.06, 0.07) | 0.862 | 0.903 | 0.01 |
| | | In lowest quartile | 0.73 (0.04) | 0.71 (0.06) | 283 | 177 | 0.451 | 0.463 | 0.02 (0.06) | (-0.10, 0.14) | 0.763 | 0.858 | 0.04 | 0.00 (0.06) | (-0.13, 0.13) | 0.982 | 0.982 | 0.00 |
| | | Not In lowest quartile - In lowest quartile | . (.) | . (.) | . | . | 0.451 | 0.463 | 0.01 (0.07) | (-0.14, 0.15) | 0.893 | 0.893 | 0.02 | 0.00 (0.07) | (-0.14, 0.15) | 0.954 | 0.954 | 0.01 |
| | Parent | | | | | | | | | | | | | | | | | |

Exhibit 4: 2006 Parenting Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-------------------------------|-----------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Special Needs (cont'd) | Parenting Style: Neglectful | Not special needs | 0.06 (0.01) | 0.06 (0.02) | 1032 | 651 | 0.24 | 0.25 | -0.01 (0.01) | (-0.04, 0.02) | 0.636 | 0.818 | -0.03 | -0.00 (0.01) | (-0.03, 0.03) | 0.912 | 0.912 | -0.01 |
| | | Special needs | 0.08 (0.03) | 0.07 (0.05) | 164 | 77 | 0.24 | 0.25 | 0.01 (0.06) | (-0.11, 0.12) | 0.898 | 0.898 | 0.03 | 0.01 (0.05) | (-0.10, 0.11) | 0.867 | 0.959 | 0.04 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.24 | 0.25 | -0.01 (0.06) | (-0.13, 0.10) | 0.803 | 0.951 | -0.06 | -0.01 (0.05) | (-0.12, 0.09) | 0.844 | 0.949 | -0.04 |
| | Parenting Style: Permissive | Not special needs | 0.17 (0.02) | 0.17 (0.04) | 1032 | 651 | 0.384 | 0.377 | -0.00 (0.03) | (-0.06, 0.06) | 1.000 | 1.000 | 0.00 | 0.01 (0.03) | (-0.04, 0.07) | 0.562 | 0.912 | 0.04 |
| | | Special needs | 0.22 (0.05) | 0.16 (0.07) | 164 | 77 | 0.384 | 0.377 | 0.06 (0.09) | (-0.11, 0.23) | 0.476 | 0.856 | 0.16 | 0.08 (0.09) | (-0.11, 0.27) | 0.395 | 0.592 | 0.21 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.384 | 0.377 | -0.06 (0.10) | (-0.25, 0.13) | 0.519 | 0.948 | -0.16 | -0.07 (0.10) | (-0.27, 0.14) | 0.520 | 0.918 | -0.17 |
| | Parent Participation | Not special needs | 0.85 (0.02) | 0.83 (0.02) | 860 | 560 | 0.357 | 0.367 | 0.02 (0.03) | (-0.04, 0.09) | 0.514 | 0.818 | 0.06 | 0.03 (0.03) | (-0.04, 0.09) | 0.421 | 0.912 | 0.07 |
| | | Special needs | 0.82 (0.05) | 0.89 (0.05) | 132 | 65 | 0.357 | 0.367 | -0.07 (0.07) | (-0.21, 0.06) | 0.283 | 0.638 | -0.20 | -0.07 (0.07) | (-0.20, 0.06) | 0.294 | 0.592 | -0.19 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.357 | 0.367 | 0.09 (0.08) | (-0.06, 0.25) | 0.213 | 0.640 | 0.26 | 0.10 (0.07) | (-0.05, 0.25) | 0.204 | 0.589 | 0.26 |
| Child's Home Language | Family Cultural Enrichment Scale | Not English | 3.94 (0.13) | 3.83 (0.17) | 286 | 179 | 1.488 | 1.428 | 0.12 (0.16) | (-0.21, 0.44) | 0.472 | 0.618 | 0.08 | 0.05 (0.16) | (-0.27, 0.36) | 0.770 | 0.784 | 0.03 |
| | | English | 3.92 (0.10) | 3.88 (0.10) | 929 | 558 | 1.488 | 1.428 | 0.03 (0.11) | (-0.19, 0.26) | 0.766 | 0.833 | 0.02 | 0.00 (0.09) | (-0.19, 0.19) | 0.982 | 0.982 | 0.00 |
| | | Not English - English | (.) | (.) | . | . | 1.488 | 1.428 | 0.08 (0.19) | (-0.30, 0.46) | 0.662 | 0.899 | 0.06 | 0.04 (0.18) | (-0.31, 0.40) | 0.803 | 0.904 | 0.03 |
| | Parent Read to Child in Last Week | Not English | 0.39 (0.04) | 0.35 (0.05) | 287 | 179 | 0.486 | 0.480 | 0.04 (0.06) | (-0.08, 0.16) | 0.507 | 0.618 | 0.08 | 0.04 (0.06) | (-0.08, 0.15) | 0.512 | 0.774 | 0.08 |
| | | English | 0.38 (0.03) | 0.36 (0.03) | 930 | 560 | 0.486 | 0.480 | 0.01 (0.04) | (-0.06, 0.09) | 0.677 | 0.833 | 0.03 | 0.00 (0.04) | (-0.08, 0.09) | 0.932 | 0.982 | 0.01 |
| | | Not English - English | (.) | (.) | . | . | 0.486 | 0.480 | 0.03 (0.06) | (-0.11, 0.16) | 0.700 | 0.899 | 0.05 | 0.03 (0.07) | (-0.10, 0.17) | 0.619 | 0.904 | 0.07 |
| | Parent Spanked Child in Last Week | Not English | 0.18 (0.03) | 0.21 (0.04) | 287 | 179 | 0.406 | 0.424 | -0.03 (0.06) | (-0.14, 0.08) | 0.604 | 0.618 | -0.07 | -0.04 (0.06) | (-0.15, 0.08) | 0.516 | 0.774 | -0.09 |
| | | English | 0.22 (0.02) | 0.24 (0.03) | 927 | 560 | 0.406 | 0.424 | -0.03 (0.03) | (-0.08, 0.03) | 0.320 | 0.719 | -0.06 | -0.03 (0.03) | (-0.08, 0.02) | 0.257 | 0.710 | -0.07 |
| | | Not English - English | (.) | (.) | . | . | 0.406 | 0.424 | -0.00 (0.06) | (-0.13, 0.12) | 0.955 | 0.955 | -0.01 | -0.01 (0.06) | (-0.13, 0.12) | 0.904 | 0.904 | -0.02 |
| | Parent Used Time Out in Last Week | Not English | 0.30 (0.03) | 0.40 (0.06) | 287 | 179 | 0.499 | 0.499 | -0.11 (0.06) | (-0.24, 0.02) | 0.091 | 0.608 | -0.22 | -0.11 (0.06) | (-0.23, -0.00) | 0.048 | 0.433 | -0.23 |
| | | English | 0.53 (0.02) | 0.57 (0.03) | 928 | 560 | 0.499 | 0.499 | -0.04 (0.04) | (-0.12, 0.03) | 0.265 | 0.719 | -0.08 | -0.03 (0.04) | (-0.10, 0.04) | 0.333 | 0.710 | -0.07 |
| | | Not English - English | (.) | (.) | . | . | 0.499 | 0.499 | -0.07 (0.07) | (-0.21, 0.07) | 0.344 | 0.774 | -0.13 | -0.08 (0.07) | (-0.21, 0.05) | 0.232 | 0.521 | -0.16 |
| | Parenting Style: Authoritarian | Not English | 0.05 (0.01) | 0.08 (0.02) | 285 | 177 | 0.208 | 0.262 | -0.02 (0.02) | (-0.07, 0.03) | 0.338 | 0.608 | -0.09 | -0.01 (0.02) | (-0.06, 0.04) | 0.663 | 0.784 | -0.04 |
| | | English | 0.04 (0.01) | 0.07 (0.02) | 911 | 551 | 0.208 | 0.262 | -0.03 (0.02) | (-0.06, 0.00) | 0.062 | 0.557 | -0.12 | -0.03 (0.02) | (-0.07, 0.00) | 0.050 | 0.224 | -0.13 |
| | | Not English - English | (.) | (.) | . | . | 0.208 | 0.262 | 0.01 (0.03) | (-0.05, 0.07) | 0.820 | 0.923 | 0.03 | 0.02 (0.03) | (-0.03, 0.08) | 0.385 | 0.693 | 0.09 |
| | Parenting Style: Authoritative | Not English | 0.73 (0.04) | 0.64 (0.07) | 285 | 177 | 0.451 | 0.463 | 0.08 (0.07) | (-0.05, 0.22) | 0.225 | 0.608 | 0.18 | 0.08 (0.07) | (-0.06, 0.21) | 0.262 | 0.731 | 0.17 |
| | | English | 0.71 (0.03) | 0.70 (0.04) | 911 | 551 | 0.451 | 0.463 | 0.01 (0.03) | (-0.06, 0.07) | 0.833 | 0.833 | 0.02 | -0.02 (0.03) | (-0.08, 0.05) | 0.572 | 0.858 | -0.04 |
| | | Not English - English | (.) | (.) | . | . | 0.451 | 0.463 | 0.08 (0.08) | (-0.08, 0.24) | 0.331 | 0.774 | 0.17 | 0.10 (0.08) | (-0.06, 0.25) | 0.230 | 0.521 | 0.21 |
| | Parenting Style: Neglectful | Not English | 0.06 (0.02) | 0.04 (0.03) | 285 | 177 | 0.238 | 0.246 | 0.02 (0.03) | (-0.05, 0.08) | 0.618 | 0.618 | 0.07 | 0.01 (0.03) | (-0.06, 0.07) | 0.784 | 0.784 | 0.04 |
| | | English | 0.06 (0.01) | 0.07 (0.02) | 911 | 551 | 0.238 | 0.246 | -0.01 (0.02) | (-0.05, 0.03) | 0.567 | 0.833 | -0.05 | -0.00 (0.02) | (-0.04, 0.04) | 0.872 | 0.982 | -0.01 |
| | | Not English - English | (.) | (.) | . | . | 0.238 | 0.246 | 0.03 (0.04) | (-0.06, 0.11) | 0.505 | 0.899 | 0.11 | 0.01 (0.04) | (-0.07, 0.09) | 0.764 | 0.904 | 0.05 |
| | Parenting Style: Permissive | Not English | 0.16 (0.04) | 0.23 (0.09) | 285 | 177 | 0.384 | 0.377 | -0.08 (0.07) | (-0.21, 0.05) | 0.243 | 0.608 | -0.21 | -0.07 (0.06) | (-0.19, 0.05) | 0.238 | 0.731 | -0.19 |
| | | English | 0.19 (0.03) | 0.15 (0.03) | 911 | 551 | 0.384 | 0.377 | 0.03 (0.02) | (-0.01, 0.08) | 0.132 | 0.593 | 0.09 | 0.05 (0.02) | (0.00, 0.10) | 0.031 | 0.224 | 0.14 |
| | | Not English - English | (.) | (.) | . | . | 0.384 | 0.377 | -0.11 (0.07) | (-0.25, 0.02) | 0.102 | 0.747 | -0.30 | -0.12 (0.06) | (-0.25, 0.00) | 0.057 | 0.514 | -0.33 |
| | Parent Participation | Not English | 0.86 (0.03) | 0. | | | | | | | | | | | | | | |

Exhibit 4: 2006 Parenting Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|-----------------------------------|-----------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|---|---------|----------------------------|-------------|--------------|---|---------|----------------------------|-------------|--|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Mother's Race/Ethnicity (cont'd) | Parenting Style: Authoritative | White/Other | 0.66 (0.05) | 0.59 (0.07) | 372 | 250 | 0.451 | 0.463 | 0.07 (0.06) | (-0.05, 0.19) | 0.269 | 0.582 | 0.14 | 0.05 (0.06) | (-0.08, 0.17) | 0.447 | 0.979 | 0.10 | |
| | | Black | 0.74 (0.05) | 0.79 (0.06) | 440 | 248 | 0.451 | 0.463 | -0.05 (0.05) | (-0.15, 0.04) | 0.249 | 0.747 | -0.12 | -0.08 (0.05) | (-0.17, 0.01) | 0.092 | 0.319 | -0.17 | |
| | | Hispanic | 0.75 (0.03) | 0.69 (0.03) | 384 | 230 | 0.451 | 0.463 | 0.06 (0.04) | (-0.03, 0.14) | 0.190 | 0.743 | 0.12 | 0.05 (0.04) | (-0.04, 0.14) | 0.270 | 0.663 | 0.10 | |
| | | White/Other - Black | (..) | (..) | . | . | 0.451 | 0.463 | 0.12 (0.08) | (-0.04, 0.28) | 0.127 | 0.570 | 0.26 | 0.12 (0.08) | (-0.04, 0.29) | 0.128 | 0.574 | 0.27 | |
| | | White/Other - Hispanic | (..) | (..) | . | . | 0.451 | 0.463 | 0.01 (0.08) | (-0.15, 0.17) | 0.886 | 0.971 | 0.02 | -0.00 (0.08) | (-0.16, 0.16) | 0.983 | 0.983 | 0.00 | |
| | | Black - Hispanic | (..) | (..) | . | . | 0.451 | 0.463 | -0.11 (0.06) | (-0.23, 0.01) | 0.071 | 0.579 | -0.24 | -0.13 (0.06) | (-0.25, -0.01) | 0.040 | 0.358 | -0.27 | |
| | Parenting Style: Neglectful | White/Other | 0.05 (0.02) | 0.09 (0.03) | 372 | 250 | 0.238 | 0.246 | -0.03 (0.04) | (-0.11, 0.04) | 0.409 | 0.582 | -0.13 | -0.01 (0.03) | (-0.08, 0.05) | 0.680 | 0.982 | -0.06 | |
| | | Black | 0.06 (0.02) | 0.06 (0.03) | 440 | 248 | 0.238 | 0.246 | 0.01 (0.02) | (-0.04, 0.05) | 0.765 | 0.828 | 0.03 | 0.01 (0.02) | (-0.04, 0.06) | 0.692 | 0.795 | 0.04 | |
| | | Hispanic | 0.06 (0.02) | 0.05 (0.02) | 384 | 230 | 0.238 | 0.246 | 0.01 (0.03) | (-0.04, 0.07) | 0.637 | 0.755 | 0.05 | 0.00 (0.03) | (-0.05, 0.06) | 0.949 | 0.949 | 0.01 | |
| | | White/Other - Black | (..) | (..) | . | . | 0.238 | 0.246 | -0.04 (0.04) | (-0.13, 0.05) | 0.399 | 0.608 | -0.15 | -0.02 (0.04) | (-0.11, 0.06) | 0.566 | 0.719 | -0.10 | |
| | | White/Other - Hispanic | (..) | (..) | . | . | 0.238 | 0.246 | -0.04 (0.05) | (-0.15, 0.06) | 0.394 | 0.971 | -0.18 | -0.02 (0.05) | (-0.11, 0.08) | 0.746 | 0.983 | -0.06 | |
| | | Black - Hispanic | (..) | (..) | . | . | 0.238 | 0.246 | -0.01 (0.04) | (-0.08, 0.07) | 0.862 | 0.881 | -0.03 | 0.01 (0.04) | (-0.06, 0.08) | 0.825 | 0.910 | 0.03 | |
| Household Risk Index | Parent Participation | White/Other | 0.25 (0.04) | 0.26 (0.07) | 372 | 250 | 0.384 | 0.377 | -0.01 (0.05) | (-0.10, 0.08) | 0.840 | 0.945 | -0.02 | -0.00 (0.05) | (-0.10, 0.10) | 0.982 | 0.982 | 0.00 | |
| | | Black | 0.15 (0.05) | 0.10 (0.06) | 440 | 248 | 0.384 | 0.377 | 0.06 (0.05) | (-0.04, 0.15) | 0.231 | 0.747 | 0.15 | 0.07 (0.05) | (-0.02, 0.17) | 0.106 | 0.319 | 0.20 | |
| | | Hispanic | 0.13 (0.02) | 0.15 (0.03) | 384 | 230 | 0.384 | 0.377 | -0.01 (0.03) | (-0.08, 0.06) | 0.671 | 0.755 | -0.04 | -0.01 (0.04) | (-0.08, 0.06) | 0.844 | 0.949 | -0.02 | |
| | | White/Other - Black | (..) | (..) | . | . | 0.384 | 0.377 | -0.07 (0.07) | (-0.20, 0.07) | 0.339 | 0.608 | -0.17 | -0.08 (0.07) | (-0.23, 0.07) | 0.311 | 0.719 | -0.20 | |
| | | White/Other - Hispanic | (..) | (..) | . | . | 0.384 | 0.377 | 0.01 (0.06) | (-0.11, 0.12) | 0.923 | 0.971 | 0.01 | 0.01 (0.06) | (-0.12, 0.13) | 0.926 | 0.983 | 0.02 | |
| | | Black - Hispanic | (..) | (..) | . | . | 0.384 | 0.377 | 0.07 (0.06) | (-0.05, 0.19) | 0.234 | 0.625 | 0.19 | 0.08 (0.06) | (-0.03, 0.20) | 0.159 | 0.565 | 0.22 | |
| | Family Cultural Enrichment Scale | White/Other | 0.89 (0.03) | 0.89 (0.03) | 305 | 218 | 0.357 | 0.367 | 0.00 (0.04) | (-0.08, 0.08) | 0.961 | 0.961 | 0.01 | -0.00 (0.04) | (-0.08, 0.08) | 0.970 | 0.982 | 0.00 | |
| | | Black | 0.79 (0.03) | 0.75 (0.05) | 353 | 208 | 0.357 | 0.367 | 0.04 (0.07) | (-0.10, 0.18) | 0.552 | 0.820 | 0.11 | 0.05 (0.07) | (-0.09, 0.19) | 0.460 | 0.795 | 0.14 | |
| | | Hispanic | 0.86 (0.03) | 0.87 (0.03) | 334 | 199 | 0.357 | 0.367 | -0.01 (0.04) | (-0.10, 0.08) | 0.796 | 0.796 | -0.03 | -0.01 (0.04) | (-0.09, 0.08) | 0.839 | 0.949 | -0.02 | |
| | | White/Other - Black | (..) | (..) | . | . | 0.357 | 0.367 | -0.04 (0.09) | (-0.21, 0.13) | 0.640 | 0.667 | -0.11 | -0.05 (0.09) | (-0.23, 0.12) | 0.540 | 0.719 | -0.14 | |
| | | White/Other - Hispanic | (..) | (..) | . | . | 0.357 | 0.367 | 0.01 (0.06) | (-0.11, 0.14) | 0.826 | 0.971 | 0.04 | 0.01 (0.06) | (-0.11, 0.13) | 0.906 | 0.983 | 0.02 | |
| | | Black - Hispanic | (..) | (..) | . | . | 0.357 | 0.367 | 0.05 (0.08) | (-0.10, 0.21) | 0.497 | 0.688 | 0.15 | 0.06 (0.08) | (-0.09, 0.22) | 0.438 | 0.697 | 0.16 | |
| Parenting Style | Parent Read to Child in Last Week | Low/No risk | 3.97 (0.09) | 3.86 (0.10) | 895 | 547 | 1.488 | 1.428 | 0.12 (0.10) | (-0.08, 0.31) | 0.246 | 0.563 | 0.08 | 0.07 (0.08) | (-0.09, 0.24) | 0.391 | 0.787 | 0.05 | |
| | | Moderate risk | 3.86 (0.18) | 3.98 (0.14) | 218 | 135 | 1.488 | 1.428 | -0.13 (0.22) | (-0.56, 0.31) | 0.564 | 0.634 | -0.09 | -0.12 (0.21) | (-0.54, 0.30) | 0.579 | 0.652 | -0.08 | |
| | | High risk | 3.61 (0.20) | 3.68 (0.25) | 102 | 55 | 1.488 | 1.428 | -0.07 (0.30) | (-0.66, 0.53) | 0.825 | 0.825 | -0.05 | -0.17 (0.35) | (-0.87, 0.53) | 0.626 | 0.805 | -0.12 | |
| | | Low/No risk - moderate risk | (..) | (..) | . | . | 1.488 | 1.428 | 0.24 (0.21) | (-0.19, 0.67) | 0.262 | 0.337 | 0.17 | 0.19 (0.21) | (-0.23, 0.61) | 0.371 | 0.415 | 0.13 | |
| | | Low/No risk - high risk | (..) | (..) | . | . | 1.488 | 1.428 | 0.18 (0.30) | (-0.42, 0.79) | 0.550 | 0.684 | 0.13 | 0.24 (0.35) | (-0.46, 0.95) | 0.491 | 0.631 | 0.17 | |
| | | Moderate risk - high risk | (..) | (..) | . | . | 1.488 | 1.428 | -0.06 (0.37) | (-0.80, 0.68) | 0.872 | 0.872 | -0.04 | 0.05 (0.42) | (-0.80, 0.90) | 0.898 | 0.999 | 0.04 | |
| | Parent Spanked Child in Last Week | Low/No risk | 0.41 (0.02) | 0.36 (0.03) | 897 | 549 | 0.486 | 0.480 | 0.05 (0.03) | (-0.02, 0.12) | 0.153 | 0.563 | 0.10 | 0.04 (0.04) | (-0.04, 0.12) | 0.322 | 0.787 | 0.08 | |
| | | Moderate risk | 0.31 (0.04) | 0.35 (0.05) | 218 | 135 | 0.486 | 0.480 | -0.04 (0.06) | (-0.17, 0.08) | 0.499 | 0.634 | -0.09 | -0.03 (0.07) | (-0.16, 0.10) | 0.660 | 0.660 | -0.06 | |
| | | High risk | 0.27 (0.07) | 0.37 (0.10) | 102 | 55 | 0.486 | 0.480 | -0.10 (0.11) | (-0.31, 0.11) | 0.350 | 0.744 | -0.21 | -0.11 (0.11) | (-0.33, 0.12) | 0.357 | 0.536 | -0.22 | |
| | | Low/No risk - moderate risk | (..) | (..) | . | . | 0.486 | 0.480 | 0.09 (0.07) | (-0.05, 0.23) | 0.187 | | | | | | | | |

Exhibit 4: 2006 Parenting Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|--------------------------------------|-----------------------------------|-----------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Household Risk Index (cont'd) | Parenting Style: Permissive | Low/No risk | 0.19 (0.03) | 0.20 (0.04) | 881 | 539 | 0.384 | 0.377 | -0.01 (0.03) | (-0.07, 0.06) | 0.801 | 0.801 | -0.02 | 0.01 (0.03) | (-0.06, 0.07) | 0.826 | 0.826 | 0.02 |
| | | Moderate risk | 0.12 (0.05) | 0.07 (0.03) | 215 | 134 | 0.384 | 0.377 | 0.05 (0.03) | (-0.02, 0.12) | 0.137 | 0.263 | 0.14 | 0.07 (0.04) | (-0.01, 0.15) | 0.074 | 0.221 | 0.19 |
| | | High risk | 0.18 (0.06) | 0.11 (0.06) | 100 | 55 | 0.384 | 0.377 | 0.07 (0.07) | (-0.06, 0.21) | 0.283 | 0.744 | 0.20 | 0.07 (0.08) | (-0.08, 0.23) | 0.357 | 0.536 | 0.19 |
| | | Low/No risk - moderate risk | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.06 (0.05) | (-0.16, 0.04) | 0.234 | 0.337 | -0.16 | -0.07 (0.06) | (-0.18, 0.05) | 0.255 | 0.415 | -0.17 |
| | | Low/No risk - high risk | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.08 (0.08) | (-0.24, 0.08) | 0.304 | 0.611 | -0.22 | -0.07 (0.09) | (-0.24, 0.11) | 0.465 | 0.631 | -0.17 |
| | | Moderate risk - high risk | . (.) | . (.) | . | . | 0.384 | 0.377 | -0.02 (0.08) | (-0.18, 0.13) | 0.776 | 0.872 | -0.06 | -0.00 (0.09) | (-0.19, 0.19) | 0.999 | 0.999 | 0.00 |
| | Parent Participation | Low/No risk | 0.87 (0.02) | 0.88 (0.02) | 743 | 463 | 0.357 | 0.367 | -0.01 (0.03) | (-0.06, 0.04) | 0.725 | 0.801 | -0.03 | -0.01 (0.03) | (-0.06, 0.04) | 0.699 | 0.787 | -0.03 |
| | | Moderate risk | 0.86 (0.04) | 0.77 (0.06) | 168 | 117 | 0.357 | 0.367 | 0.09 (0.08) | (-0.07, 0.25) | 0.271 | 0.406 | 0.24 | 0.10 (0.08) | (-0.06, 0.26) | 0.230 | 0.415 | 0.27 |
| | | High risk | 0.66 (0.08) | 0.53 (0.11) | 81 | 45 | 0.357 | 0.367 | 0.14 (0.15) | (-0.17, 0.44) | 0.367 | 0.744 | 0.37 | 0.19 (0.16) | (-0.13, 0.51) | 0.243 | 0.536 | 0.51 |
| | | Low/No risk - moderate risk | . (.) | . (.) | . | . | 0.357 | 0.367 | -0.10 (0.09) | (-0.27, 0.07) | 0.251 | 0.337 | -0.27 | -0.11 (0.08) | (-0.28, 0.06) | 0.208 | 0.415 | -0.29 |
| | | Low/No risk - high risk | . (.) | . (.) | . | . | 0.357 | 0.367 | -0.15 (0.15) | (-0.45, 0.16) | 0.340 | 0.611 | -0.40 | -0.20 (0.16) | (-0.52, 0.12) | 0.222 | 0.580 | -0.54 |
| | | Moderate risk - high risk | . (.) | . (.) | . | . | 0.357 | 0.367 | -0.05 (0.15) | (-0.35, 0.25) | 0.748 | 0.872 | -0.13 | -0.09 (0.16) | (-0.42, 0.24) | 0.582 | 0.999 | -0.25 |
| Urbanicity | Family Cultural Enrichment Scale | Not Urban | 3.80 (0.15) | 3.87 (0.15) | 210 | 135 | 1.488 | 1.428 | -0.08 (0.19) | (-0.45, 0.30) | 0.688 | 0.902 | -0.05 | -0.06 (0.16) | (-0.38, 0.26) | 0.693 | 0.908 | -0.04 |
| | | Urban | 3.95 (0.10) | 3.87 (0.11) | 1005 | 602 | 1.488 | 1.428 | 0.09 (0.11) | (-0.13, 0.30) | 0.427 | 0.673 | 0.06 | 0.03 (0.09) | (-0.15, 0.21) | 0.733 | 0.845 | 0.02 |
| | | Not urban - urban | . (.) | . (.) | . | . | 1.488 | 1.428 | -0.16 (0.20) | (-0.57, 0.25) | 0.432 | 0.997 | -0.11 | -0.09 (0.17) | (-0.43, 0.24) | 0.574 | 0.805 | -0.07 |
| | Parent Read to Child in Last Week | Not Urban | 0.47 (0.04) | 0.44 (0.06) | 211 | 135 | 0.486 | 0.480 | 0.02 (0.06) | (-0.11, 0.15) | 0.716 | 0.902 | 0.05 | 0.03 (0.07) | (-0.11, 0.16) | 0.700 | 0.908 | 0.05 |
| | | Urban | 0.36 (0.03) | 0.34 (0.03) | 1006 | 604 | 0.486 | 0.480 | 0.02 (0.04) | (-0.06, 0.10) | 0.608 | 0.673 | 0.04 | 0.01 (0.04) | (-0.07, 0.09) | 0.845 | 0.845 | 0.02 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.486 | 0.480 | 0.00 (0.08) | (-0.15, 0.16) | 0.956 | 0.997 | 0.01 | 0.02 (0.07) | (-0.13, 0.16) | 0.813 | 0.813 | 0.04 |
| | Parent Spanked Child in Last Week | Not Urban | 0.26 (0.04) | 0.27 (0.05) | 211 | 135 | 0.406 | 0.424 | -0.01 (0.07) | (-0.14, 0.13) | 0.912 | 0.912 | -0.02 | 0.01 (0.07) | (-0.13, 0.15) | 0.908 | 0.908 | 0.02 |
| | | Urban | 0.20 (0.02) | 0.23 (0.03) | 1003 | 604 | 0.406 | 0.424 | -0.03 (0.03) | (-0.09, 0.03) | 0.291 | 0.673 | -0.07 | -0.04 (0.03) | (-0.10, 0.02) | 0.151 | 0.489 | -0.10 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.406 | 0.424 | 0.02 (0.08) | (-0.14, 0.19) | 0.778 | 0.997 | 0.06 | 0.05 (0.08) | (-0.11, 0.21) | 0.548 | 0.805 | 0.12 |
| | Parent Used Time Out in Last Week | Not Urban | 0.55 (0.04) | 0.65 (0.05) | 211 | 135 | 0.499 | 0.499 | -0.10 (0.07) | (-0.24, 0.05) | 0.175 | 0.902 | -0.20 | -0.08 (0.07) | (-0.22, 0.06) | 0.247 | 0.908 | -0.16 |
| | | Urban | 0.46 (0.02) | 0.50 (0.03) | 1004 | 604 | 0.499 | 0.499 | -0.05 (0.04) | (-0.12, 0.02) | 0.189 | 0.673 | -0.09 | -0.05 (0.03) | (-0.11, 0.02) | 0.163 | 0.489 | -0.09 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.499 | 0.499 | -0.05 (0.08) | (-0.21, 0.10) | 0.512 | 0.997 | -0.10 | -0.03 (0.08) | (-0.19, 0.12) | 0.675 | 0.805 | -0.07 |
| | Parenting Style: Authoritarian | Not Urban | 0.04 (0.02) | 0.07 (0.03) | 210 | 133 | 0.208 | 0.262 | -0.03 (0.02) | (-0.08, 0.02) | 0.211 | 0.902 | -0.11 | -0.01 (0.02) | (-0.06, 0.03) | 0.553 | 0.908 | -0.05 |
| | | Urban | 0.05 (0.01) | 0.07 (0.01) | 986 | 595 | 0.208 | 0.262 | -0.03 (0.01) | (-0.06, -0.00) | 0.049 | 0.441 | -0.11 | -0.03 (0.02) | (-0.06, -0.00) | 0.435 | 0.805 | -0.12 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.208 | 0.262 | -0.00 (0.03) | (-0.05, 0.05) | 0.942 | 0.997 | -0.01 | 0.02 (0.03) | (-0.03, 0.07) | 0.485 | 0.805 | 0.07 |
| | Parenting Style: Authoritative | Not Urban | 0.74 (0.05) | 0.72 (0.04) | 210 | 133 | 0.451 | 0.463 | 0.02 (0.06) | (-0.09, 0.14) | 0.674 | 0.902 | 0.05 | -0.02 (0.06) | (-0.15, 0.11) | 0.740 | 0.908 | -0.05 |
| | | Urban | 0.71 (0.03) | 0.68 (0.04) | 986 | 595 | 0.451 | 0.463 | 0.03 (0.04) | (-0.05, 0.10) | 0.492 | 0.673 | 0.05 | 0.01 (0.04) | (-0.06, 0.08) | 0.759 | 0.845 | 0.02 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.451 | 0.463 | -0.00 (0.08) | (-0.15, 0.15) | 0.997 | 0.997 | 0.00 | -0.03 (0.08) | (-0.19, 0.13) | 0.686 | 0.805 | -0.07 |
| | Parenting Style: Neglectful | Not Urban | 0.07 (0.02) | 0.05 (0.02) | 210 | 133 | 0.238 | 0.246 | 0.02 (0.03) | (-0.05, 0.08) | 0.630 | 0.902 | 0.06 | 0.03 (0.03) | (-0.04, 0.10) | 0.403 | 0.908 | 0.11 |
| | | Urban | 0.06 (0.01) | 0.07 (0.02) | 986 | 595 | 0.238 | 0.246 | -0.01 (0.02) | (-0.05, 0.03) | 0.577 | 0.673 | -0.04 | -0.01 (0.02) | (-0.04, 0.03) | 0.651 | 0.845 | -0.03 |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.238 | 0.246 | 0.03 (0.04) | (-0.05, 0.10) | 0.495 | 0.997 | 0.10 | 0.04 (0.04) | (-0.04, 0.11) | 0.326 | 0.805 | 0.15 |
| | Parenting Style: Permissive | Not Urban | 0.15 (0.03) | 0.16 (0.03) | 210</ | | | | | | | | | | | | | |

Exhibit 5: 2006 School Performance Assessment Domain Subgroup Impact Estimates for the 3-Year-Old Cohort

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|-----------------------------------|----------------------------------|-------------------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|---|---------|----------------------------|----------------------------|---|----------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval (Standard Error) | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Parent Depressive Symptoms | Promotion | No depressive symptoms | 0.94 (0.01) | 0.92 (0.02) | 563 | 333 | 0.265 | 0.247 | 0.02 (0.03) | (-0.03, 0.07) | 0.483 | 0.724 | 0.08 | 0.02 (0.03) | (-0.03, 0.07) | 0.446 | 0.741 | 0.08 |
| | | Mild depressive symptoms | 0.89 (0.03) | 0.93 (0.02) | 282 | 139 | 0.265 | 0.247 | -0.03 (0.03) | (-0.10, 0.03) | 0.315 | 0.377 | -0.14 | -0.04 (0.03) | (-0.11, 0.02) | 0.173 | 0.208 | -0.17 |
| | | Moderate depressive symptoms | 0.88 (0.03) | 0.97 (0.02) | 139 | 75 | 0.265 | 0.247 | -0.08 (0.04) | (-0.16, -0.01) | 0.031 | 0.183 | -0.33 | -0.11 (0.04) | (-0.19, -0.02) | 0.017 | 0.099 | -0.43 |
| | | Severe depressive symptoms | 0.99 (0.01) | 0.93 (0.05) | 96 | 58 | 0.265 | 0.247 | 0.06 (0.05) | (-0.04, 0.17) | 0.250 | 0.651 | 0.24 | 0.06 (0.05) | (-0.05, 0.17) | 0.271 | 0.585 | 0.24 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | 0.05 (0.04) | (-0.03, 0.14) | 0.231 | 0.277 | 0.21 | 0.06 (0.04) | (-0.02, 0.15) | 0.145 | 0.174 | 0.25 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | 0.10 (0.04) | (0.02, 0.18) | 0.018 | 0.108 | 0.41 | 0.13 (0.05) | (0.03, 0.22) | 0.009 | 0.056 | 0.51 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | -0.04 (0.06) | (-0.17, 0.09) | 0.512 | 0.821 | -0.17 | -0.04 (0.06) | (-0.17, 0.09) | 0.534 | 0.913 | -0.16 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | 0.05 (0.05) | (-0.05, 0.15) | 0.325 | 0.487 | 0.20 | 0.06 (0.05) | (-0.05, 0.17) | 0.249 | 0.499 | 0.26 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | -0.09 (0.07) | (-0.23, 0.04) | 0.155 | 0.298 | -0.38 | -0.10 (0.07) | (-0.24, 0.04) | 0.142 | 0.250 | -0.42 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.265 | 0.247 | -0.14 (0.06) | (-0.27, -0.01) | 0.030 | 0.180 | -0.58 | -0.17 (0.07) | (-0.30, -0.03) | 0.015 | 0.092 | -0.68 |
| | School Accomplishments | No depressive symptoms | 42.85 (0.65) | 42.53 (1.07) | 420 | 261 | 10.673 | 9.907 | 0.32 (1.09) | (-1.88, 2.52) | 0.769 | 0.835 | 0.03 | 0.43 (1.00) | (-1.58, 2.44) | 0.669 | 0.802 | 0.04 |
| | | Mild depressive symptoms | 41.68 (0.84) | 44.53 (0.87) | 208 | 104 | 10.673 | 9.907 | -2.85 (1.28) | (-5.42, -0.27) | 0.031 | 0.046 | -0.29 | -2.47 (1.51) | (-5.50, 0.55) | 0.107 | 0.160 | -0.25 |
| | | Moderate depressive symptoms | 42.06 (1.15) | 42.51 (1.30) | 99 | 61 | 10.673 | 9.907 | -0.45 (1.87) | (-4.20, 3.30) | 0.811 | 0.917 | -0.05 | -1.41 (1.85) | (-5.13, 2.30) | 0.448 | 0.763 | -0.14 |
| | | Severe depressive symptoms | 42.55 (1.70) | 41.55 (2.28) | 65 | 35 | 10.673 | 9.907 | 1.00 (2.91) | (-4.85, 6.85) | 0.733 | 0.879 | 0.10 | 1.87 (2.82) | (-3.80, 7.54) | 0.511 | 0.753 | 0.19 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | 3.17 (1.34) | (0.48, 5.86) | 0.022 | 0.044 | 0.32 | 2.90 (1.59) | (-0.30, 6.11) | 0.075 | 0.149 | 0.29 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | 0.77 (2.34) | (-3.92, 5.47) | 0.742 | 0.805 | 0.08 | 1.84 (2.19) | (-2.56, 6.25) | 0.404 | 0.808 | 0.19 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | -0.68 (2.97) | (-6.66, 5.30) | 0.821 | 0.821 | -0.07 | -1.44 (2.91) | (-7.28, 4.40) | 0.623 | 0.913 | -0.15 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | -2.40 (2.16) | (-6.73, 1.94) | 0.271 | 0.487 | -0.24 | -1.06 (2.23) | (-5.54, 3.42) | 0.637 | 0.702 | -0.11 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | -3.85 (2.95) | (-9.78, 2.09) | 0.199 | 0.298 | -0.39 | -4.34 (3.08) | (-10.53, 1.85) | 0.165 | 0.250 | -0.44 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 10.673 | 9.907 | -1.45 (3.55) | (-8.59, 5.69) | 0.685 | 0.822 | -0.15 | -3.28 (3.54) | (-10.39, 3.82) | 0.358 | 0.537 | -0.33 |
| | School Contact and Communication | No depressive symptoms | 0.84 (0.02) | 0.79 (0.03) | 457 | 298 | 0.384 | 0.405 | 0.05 (0.03) | (-0.02, 0.11) | 0.182 | 0.724 | 0.11 | 0.04 (0.03) | (-0.03, 0.11) | 0.208 | 0.741 | 0.11 |
| | | Mild depressive symptoms | 0.78 (0.04) | 0.79 (0.05) | 244 | 120 | 0.384 | 0.405 | -0.00 (0.07) | (-0.13, 0.13) | 0.986 | 0.986 | 0.00 | -0.01 (0.07) | (-0.16, 0.13) | 0.835 | 0.834 | -0.04 |
| | | Moderate depressive symptoms | 0.86 (0.04) | 0.91 (0.04) | 109 | 65 | 0.384 | 0.405 | -0.05 (0.05) | (-0.15, 0.05) | 0.314 | 0.843 | -0.12 | -0.05 (0.05) | (-0.15, 0.05) | 0.338 | 0.763 | -0.12 |
| | | Severe depressive symptoms | 0.74 (0.06) | 0.62 (0.12) | 75 | 40 | 0.384 | 0.405 | 0.12 (0.12) | (-0.12, 0.36) | 0.325 | 0.651 | 0.29 | 0.14 (0.12) | (-0.10, 0.38) | 0.262 | 0.585 | 0.33 |
| | | No symptoms - mild symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | 0.05 (0.06) | (-0.07, 0.17) | 0.433 | 0.433 | 0.12 | 0.06 (0.06) | (-0.07, 0.19) | 0.358 | 0.358 | 0.15 |
| | | No symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | 0.10 (0.06) | (-0.03, 0.22) | 0.124 | 0.371 | 0.24 | 0.09 (0.06) | (-0.04, 0.22) | 0.151 | 0.452 | 0.23 |
| | | No symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | -0.07 (0.12) | (-0.32, 0.18) | 0.562 | 0.821 | -0.18 | -0.09 (0.13) | (-0.34, 0.16) | 0.473 | 0.913 | -0.22 |
| | | Mild symptoms - moderate symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | 0.05 (0.09) | (-0.13, 0.22) | 0.577 | 0.577 | 0.12 | 0.03 (0.09) | (-0.15, 0.22) | 0.702 | 0.702 | 0.09 |
| | | Mild symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | -0.12 (0.13) | (-0.39, 0.15) | 0.369 | 0.443 | -0.30 | -0.15 (0.13) | (-0.42, 0.12) | 0.267 | 0.320 | -0.37 |
| | | Moderate symptoms - severe symptoms | . (.) | . (.) | . | . | 0.384 | 0.405 | -0.17 (0.14) | (-0.44, 0.10) | 0.221 | 0.441 | -0.42 | -0.19 (0.14) | (-0.46, 0.09) | 0.179 | 0.390 | -0.46 |
| | Language and Literacy Ability | No depressive symptoms | 0.73 (0.02) | 0.69 (0.04) | 466 | 299 | 0.451 | 0.452 | 0.03 (0.04) | (-0.05, 0.12) | 0.452 | 0.724 | 0.07 | 0.03 (0.04) | (-0.05, 0.11) | 0.494 | 0.741 | 0.06 |
| | | Mild depressive symptoms | 0.69 (0.03) | 0.81 (0.05) | 246 | 119 | 0.451 | 0.452 | -0.12 (0.05) | (-0.23, -0.01) | 0.028 | 0.046 | -0.27 | -0.11 (0.06) | (-0.23, 0.01) | 0.069 | 0.139 | -0.24 |
| | | Moderate depressive symptoms | 0.71 (0.05) | 0.70 (0.05) | 110 | 65 | 0.451 | 0.452 | 0.01 (0.08) | (-0.15, 0.17) | 0.917 | 0.917 | 0.02 | -0.00 (0.08) | (-0.17, 0.16) | 0.973 | 0.973 | 0.01 |
| | | Severe depressive symptoms | 0.74 (0.06) | 0.73 (0.07) | 78 | 42 | 0.451 | 0.452 | 0.00 (0.08) | (-0.16, 0.17) | 0.971 | 0.971 | 0.01 | 0.04 (0.08) | (-0.13, 0.20) | 0.665 | 0.753 | |

Exhibit 5: 2006 School Performance Assessment Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|------------------------------------|---|--------------------------------------|-----------------------------------|--------------------|-----------------|-------------------------------------|----------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|----------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Child's Pre-Academic Skills (cont'd) | Language and Literacy Ability | Not In lowest quartile | 0.76 (0.02) | 0.75 (0.03) | 748 | 471 | 0.451 | 0.452 | 0.01 (0.04) | (-0.07, 0.09) | 0.875 | 0.875 | 0.01 | 0.00 (0.03) | (-0.07, 0.07) | 0.973 | 0.973 | 0.00 |
| | | In lowest quartile | 0.58 (0.04) | 0.59 (0.05) | 231 | 147 | 0.451 | 0.452 | -0.01 (0.07) | (-0.15, 0.13) | 0.861 | 0.861 | -0.03 | 0.02 (0.07) | (-0.12, 0.15) | 0.799 | 0.799 | 0.04 |
| | | Not In lowest quartile - In lowest quartile | (.) | (.) | . | . | 0.451 | 0.452 | 0.02 (0.09) | (-0.16, 0.20) | 0.836 | 0.984 | 0.04 | -0.02 (0.08) | (-0.18, 0.15) | 0.844 | 0.989 | -0.04 |
| | Math Ability | Not In lowest quartile | 0.82 (0.02) | 0.84 (0.02) | 748 | 470 | 0.414 | 0.398 | -0.02 (0.04) | (-0.10, 0.06) | 0.610 | 0.740 | -0.05 | -0.02 (0.04) | (-0.09, 0.05) | 0.573 | 0.973 | -0.05 |
| | | In lowest quartile | 0.66 (0.04) | 0.69 (0.06) | 231 | 146 | 0.414 | 0.398 | -0.03 (0.08) | (-0.18, 0.12) | 0.684 | 0.821 | -0.08 | -0.02 (0.08) | (-0.18, 0.13) | 0.783 | 0.799 | -0.05 |
| | | Not In lowest quartile - In lowest quartile | (.) | (.) | . | . | 0.414 | 0.398 | 0.01 (0.10) | (-0.19, 0.21) | 0.908 | 0.984 | 0.03 | 0.00 (0.10) | (-0.20, 0.20) | 0.989 | 0.989 | 0.00 |
| | Social Studies and Science Ability | Not In lowest quartile | 0.85 (0.02) | 0.89 (0.02) | 745 | 465 | 0.378 | 0.350 | -0.03 (0.03) | (-0.10, 0.03) | 0.320 | 0.740 | -0.09 | -0.03 (0.03) | (-0.09, 0.03) | 0.342 | 0.973 | -0.08 |
| | | In lowest quartile | 0.73 (0.04) | 0.76 (0.05) | 230 | 145 | 0.378 | 0.350 | -0.03 (0.07) | (-0.17, 0.11) | 0.660 | 0.821 | -0.09 | -0.02 (0.06) | (-0.14, 0.11) | 0.795 | 0.799 | -0.04 |
| | | Not In lowest quartile - In lowest quartile | (.) | (.) | . | . | 0.378 | 0.350 | -0.00 (0.08) | (-0.17, 0.17) | 0.984 | 0.984 | 0.00 | -0.01 (0.07) | (-0.16, 0.13) | 0.853 | 0.989 | -0.04 |
| Special Needs | Promotion | Not special needs | 0.93 (0.01) | 0.95 (0.01) | 1016 | 637 | 0.265 | 0.247 | -0.02 (0.01) | (-0.05, 0.01) | 0.231 | 0.626 | -0.07 | -0.02 (0.01) | (-0.05, 0.00) | 0.080 | 0.479 | -0.10 |
| | | Special needs | 0.90 (0.03) | 0.85 (0.06) | 160 | 75 | 0.265 | 0.247 | 0.05 (0.06) | (-0.08, 0.17) | 0.444 | 0.644 | 0.19 | 0.04 (0.07) | (-0.10, 0.18) | 0.556 | 0.762 | 0.16 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.265 | 0.247 | -0.07 (0.06) | (-0.19, 0.06) | 0.306 | 0.559 | -0.27 | -0.06 (0.07) | (-0.20, 0.07) | 0.355 | 0.556 | -0.26 |
| | School Accomplishments | Not special needs | 43.00 (0.46) | 42.90 (0.65) | 752 | 487 | 10.673 | 9.907 | 0.09 (0.82) | (-1.56, 1.75) | 0.911 | 0.911 | 0.01 | 0.11 (0.69) | (-1.28, 1.49) | 0.876 | 0.876 | 0.01 |
| | | Special needs | 38.64 (1.30) | 41.35 (2.25) | 108 | 55 | 10.673 | 9.907 | -2.71 (2.79) | (-8.31, 2.89) | 0.335 | 0.644 | -0.27 | -3.17 (2.97) | (-9.13, 2.80) | 0.291 | 0.762 | -0.32 |
| | | Not special needs - special needs | (.) | (.) | . | . | 10.673 | 9.907 | 2.80 (2.90) | (-3.02, 8.63) | 0.338 | 0.559 | 0.28 | 3.28 (2.93) | (-2.61, 9.17) | 0.269 | 0.556 | 0.33 |
| | School Contact and Communication | Not special needs | 0.82 (0.02) | 0.80 (0.02) | 836 | 550 | 0.384 | 0.405 | 0.02 (0.03) | (-0.03, 0.08) | 0.417 | 0.626 | 0.06 | 0.02 (0.03) | (-0.04, 0.07) | 0.504 | 0.667 | 0.05 |
| | | Special needs | 0.83 (0.04) | 0.78 (0.09) | 128 | 61 | 0.384 | 0.405 | 0.06 (0.09) | (-0.13, 0.25) | 0.537 | 0.644 | 0.15 | 0.05 (0.10) | (-0.16, 0.26) | 0.635 | 0.762 | 0.12 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.384 | 0.405 | -0.04 (0.09) | (-0.22, 0.15) | 0.694 | 0.694 | -0.09 | -0.03 (0.10) | (-0.24, 0.17) | 0.760 | 0.760 | -0.08 |
| | Language and Literacy Ability | Not special needs | 0.73 (0.02) | 0.72 (0.03) | 851 | 553 | 0.451 | 0.452 | 0.02 (0.03) | (-0.05, 0.08) | 0.581 | 0.697 | 0.04 | 0.02 (0.03) | (-0.04, 0.07) | 0.556 | 0.667 | 0.03 |
| | | Special needs | 0.60 (0.05) | 0.68 (0.07) | 128 | 65 | 0.451 | 0.452 | -0.08 (0.08) | (-0.25, 0.09) | 0.325 | 0.644 | -0.18 | -0.07 (0.10) | (-0.28, 0.13) | 0.469 | 0.762 | -0.16 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.451 | 0.452 | 0.10 (0.08) | (-0.07, 0.27) | 0.234 | 0.559 | 0.22 | 0.09 (0.10) | (-0.11, 0.29) | 0.371 | 0.556 | 0.20 |
| | Math Ability | Not special needs | 0.79 (0.02) | 0.81 (0.02) | 851 | 551 | 0.414 | 0.398 | -0.03 (0.03) | (-0.08, 0.03) | 0.323 | 0.626 | -0.07 | -0.02 (0.03) | (-0.08, 0.03) | 0.353 | 0.667 | -0.06 |
| | | Special needs | 0.74 (0.04) | 0.72 (0.06) | 128 | 65 | 0.414 | 0.398 | 0.02 (0.08) | (-0.14, 0.18) | 0.780 | 0.780 | 0.06 | 0.00 (0.08) | (-0.16, 0.17) | 0.978 | 0.978 | 0.01 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.414 | 0.398 | -0.05 (0.07) | (-0.20, 0.10) | 0.513 | 0.616 | -0.12 | -0.03 (0.08) | (-0.18, 0.13) | 0.740 | 0.760 | -0.07 |
| | Social Studies and Science Ability | Not special needs | 0.85 (0.01) | 0.87 (0.02) | 847 | 545 | 0.378 | 0.350 | -0.02 (0.02) | (-0.06, 0.02) | 0.360 | 0.626 | -0.06 | -0.01 (0.02) | (-0.06, 0.03) | 0.475 | 0.667 | -0.04 |
| | | Special needs | 0.68 (0.04) | 0.77 (0.07) | 128 | 65 | 0.378 | 0.350 | -0.09 (0.08) | (-0.25, 0.07) | 0.277 | 0.644 | -0.26 | -0.10 (0.09) | (-0.29, 0.09) | 0.285 | 0.762 | -0.29 |
| | | Not special needs - special needs | (.) | (.) | . | . | 0.378 | 0.350 | 0.07 (0.08) | (-0.09, 0.23) | 0.373 | 0.559 | 0.20 | 0.09 (0.09) | (-0.09, 0.26) | 0.339 | 0.556 | 0.24 |
| Child's Home Language | Promotion | Not English | 0.95 (0.02) | 0.94 (0.03) | 280 | 168 | 0.265 | 0.247 | 0.02 (0.03) | (-0.04, 0.08) | 0.542 | 0.542 | 0.08 | 0.02 (0.03) | (-0.04, 0.08) | 0.495 | 0.594 | 0.08 |
| | | English | 0.91 (0.01) | 0.93 (0.01) | 896 | 544 | 0.265 | 0.247 | -0.02 (0.02) | (-0.06, 0.02) | 0.257 | 0.597 | -0.08 | -0.03 (0.02) | (-0.06, 0.00) | 0.088 | 0.525 | -0.12 |
| | | Not English - English | (.) | (.) | . | . | 0.265 | 0.247 | 0.04 (0.03) | (-0.03, 0.11) | 0.259 | 0.452 | 0.16 | 0.05 (0.03) | (-0.02, 0.11) | 0.136 | 0.409 | 0.20 |
| | School Accomplishments | Not English | 42.75 (1.00) | 41.69 (1.57) | 217 | 145 | 10.673 | 9.907 | 1.06 (1.40) | (-1.75, 3.87) | 0.453 | 0.542 | 0.11 | 0.69 (1.31) | (-1.95, 3.32) | 0.602 | 0.602 | 0.07 |
| | | English | 42.37 (0.50) | 43.14 (0.69) | 643 | 397 | 10.673 | 9.907 | -0.77 (1.00) | (-2.79, 1.25) | 0.445 | 0.597 | -0.08 | -0.63 (0.95) | (-2.54, 1.28) | 0.507 | 0.757 | -0.06 |
| | | Not English - English | (.) | (.) | . | . | 10.673 | 9.907 | 1.83 (1.75) | (-1.69, 5.35) | 0.302 | 0.452 | 0.18 | 1.32 (1.67) | (-2.03, 4.67) | 0.431 | 0.48 | |

Exhibit 5: 2006 School Performance Assessment Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | Regression-Adjusted Impact | | | | |
|---|------------------------------------|-----------------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|--------------|-------------------------|---------|----------------------------|--------|----------------------------|---------------|----------------------------|-------------|-------|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | |
| Mother's Race/Ethnicity (cont'd) | Language and Literacy Ability | White/Other | 0.75 (0.03) | 0.77 (0.04) | 303 | 217 | 0.451 | 0.452 | -0.03 (0.05) | (-0.13, 0.08) | 0.627 | 0.975 | -0.06 | -0.02 (0.05) | (-0.12, 0.08) | 0.724 | 0.988 | -0.04 |
| | | Black | 0.71 (0.03) | 0.76 (0.04) | 349 | 204 | 0.451 | 0.452 | -0.06 (0.05) | (-0.15, 0.04) | 0.261 | 0.787 | -0.12 | -0.04 (0.05) | (-0.14, 0.05) | 0.356 | 0.713 | -0.10 |
| | | Hispanic | 0.70 (0.03) | 0.60 (0.05) | 327 | 197 | 0.451 | 0.452 | 0.10 (0.06) | (-0.02, 0.21) | 0.109 | 0.327 | 0.21 | 0.08 (0.05) | (-0.03, 0.18) | 0.144 | 0.329 | 0.17 |
| | | White/Other - Black | ..(.) | ..(.) | .. | .. | 0.451 | 0.452 | 0.03 (0.07) | (-0.12, 0.18) | 0.678 | 0.986 | 0.07 | 0.03 (0.07) | (-0.12, 0.17) | 0.715 | 0.937 | 0.06 |
| | | White/Other - Hispanic | ..(.) | ..(.) | .. | .. | 0.451 | 0.452 | -0.12 (0.08) | (-0.28, 0.04) | 0.140 | 0.419 | -0.27 | -0.10 (0.08) | (-0.25, 0.06) | 0.207 | 0.587 | -0.21 |
| | | Black - Hispanic | ..(.) | ..(.) | .. | .. | 0.451 | 0.452 | -0.15 (0.07) | (-0.30, -0.00) | 0.048 | 0.143 | -0.33 | -0.12 (0.07) | (-0.26, 0.02) | 0.088 | 0.264 | -0.27 |
| | Math Ability | White/Other | 0.79 (0.04) | 0.79 (0.04) | 302 | 216 | 0.414 | 0.398 | -0.00 (0.06) | (-0.11, 0.11) | 0.975 | 0.975 | 0.00 | -0.00 (0.05) | (-0.10, 0.10) | 0.988 | 0.988 | 0.00 |
| | | Black | 0.79 (0.02) | 0.80 (0.05) | 350 | 203 | 0.414 | 0.398 | -0.01 (0.05) | (-0.11, 0.09) | 0.787 | 0.787 | -0.03 | -0.01 (0.05) | (-0.11, 0.09) | 0.902 | 0.902 | -0.02 |
| | | Hispanic | 0.76 (0.04) | 0.81 (0.03) | 327 | 197 | 0.414 | 0.398 | -0.05 (0.04) | (-0.13, 0.03) | 0.201 | 0.402 | -0.12 | -0.05 (0.04) | (-0.13, 0.02) | 0.165 | 0.329 | -0.14 |
| | | White/Other - Black | ..(.) | ..(.) | .. | .. | 0.414 | 0.398 | 0.01 (0.07) | (-0.13, 0.16) | 0.869 | 0.986 | 0.03 | 0.01 (0.07) | (-0.13, 0.14) | 0.937 | 0.937 | 0.01 |
| | | White/Other - Hispanic | ..(.) | ..(.) | .. | .. | 0.414 | 0.398 | 0.05 (0.07) | (-0.09, 0.19) | 0.493 | 0.676 | 0.12 | 0.05 (0.06) | (-0.07, 0.18) | 0.391 | 0.587 | 0.13 |
| | | Black - Hispanic | ..(.) | ..(.) | .. | .. | 0.414 | 0.398 | 0.04 (0.06) | (-0.09, 0.16) | 0.575 | 0.862 | 0.09 | 0.05 (0.06) | (-0.08, 0.18) | 0.454 | 0.645 | 0.12 |
| | Social Studies and Science Ability | White/Other | 0.86 (0.03) | 0.87 (0.03) | 299 | 213 | 0.378 | 0.350 | -0.01 (0.03) | (-0.07, 0.06) | 0.847 | 0.975 | -0.02 | -0.00 (0.03) | (-0.07, 0.07) | 0.962 | 0.988 | 0.00 |
| | | Black | 0.82 (0.03) | 0.87 (0.04) | 349 | 202 | 0.378 | 0.350 | -0.05 (0.05) | (-0.16, 0.05) | 0.313 | 0.787 | -0.15 | -0.05 (0.05) | (-0.15, 0.05) | 0.305 | 0.713 | -0.15 |
| | | Hispanic | 0.80 (0.03) | 0.83 (0.04) | 327 | 195 | 0.378 | 0.350 | -0.03 (0.04) | (-0.11, 0.05) | 0.449 | 0.541 | -0.09 | -0.02 (0.04) | (-0.10, 0.06) | 0.595 | 0.792 | -0.06 |
| | | White/Other - Black | ..(.) | ..(.) | .. | .. | 0.378 | 0.350 | 0.05 (0.06) | (-0.08, 0.18) | 0.471 | 0.986 | 0.13 | 0.05 (0.06) | (-0.08, 0.18) | 0.425 | 0.937 | 0.14 |
| | | White/Other - Hispanic | ..(.) | ..(.) | .. | .. | 0.378 | 0.350 | 0.02 (0.05) | (-0.08, 0.13) | 0.646 | 0.676 | 0.07 | 0.02 (0.05) | (-0.08, 0.12) | 0.694 | 0.694 | 0.06 |
| | | Black - Hispanic | ..(.) | ..(.) | .. | .. | 0.378 | 0.350 | -0.02 (0.07) | (-0.16, 0.11) | 0.736 | 0.871 | -0.07 | -0.03 (0.07) | (-0.16, 0.10) | 0.645 | 0.645 | -0.09 |
| Household Risk Index | Promotion | Low/No risk | 0.93 (0.01) | 0.94 (0.01) | 867 | 530 | 0.265 | 0.247 | -0.00 (0.02) | (-0.03, 0.03) | 0.903 | 0.972 | -0.01 | -0.01 (0.02) | (-0.04, 0.02) | 0.573 | 0.859 | -0.04 |
| | | Moderate risk | 0.93 (0.03) | 0.94 (0.03) | 211 | 129 | 0.265 | 0.247 | -0.01 (0.05) | (-0.11, 0.08) | 0.792 | 0.792 | -0.05 | -0.02 (0.05) | (-0.11, 0.07) | 0.679 | 0.814 | -0.08 |
| | | High risk | 0.83 (0.06) | 0.91 (0.04) | 98 | 53 | 0.265 | 0.247 | -0.08 (0.07) | (-0.22, 0.06) | 0.264 | 0.791 | -0.32 | -0.07 (0.07) | (-0.20, 0.06) | 0.282 | 0.565 | -0.29 |
| | | Low/No risk - moderate risk | ..(.) | ..(.) | .. | .. | 0.265 | 0.247 | 0.01 (0.05) | (-0.09, 0.11) | 0.834 | 0.833 | 0.04 | 0.01 (0.05) | (-0.09, 0.11) | 0.839 | 0.839 | 0.04 |
| | | Low/No risk - high risk | ..(.) | ..(.) | .. | .. | 0.265 | 0.247 | 0.08 (0.07) | (-0.07, 0.23) | 0.303 | 0.909 | 0.31 | 0.06 (0.07) | (-0.08, 0.20) | 0.373 | 0.746 | 0.25 |
| | | Moderate risk - high risk | ..(.) | ..(.) | .. | .. | 0.265 | 0.247 | 0.07 (0.08) | (-0.10, 0.23) | 0.419 | 0.719 | 0.27 | 0.05 (0.08) | (-0.11, 0.21) | 0.518 | 0.582 | 0.21 |
| | School Accomplishments | Low/No risk | 42.86 (0.56) | 42.90 (0.84) | 655 | 406 | 10.673 | 9.907 | -0.04 (1.00) | (-2.05, 1.98) | 0.972 | 0.972 | 0.00 | -0.16 (1.00) | (-2.17, 1.84) | 0.870 | 0.875 | -0.02 |
| | | Moderate risk | 41.50 (0.90) | 42.75 (1.14) | 138 | 99 | 10.673 | 9.907 | -1.25 (1.59) | (-4.45, 1.95) | 0.436 | 0.786 | -0.13 | -1.17 (1.32) | (-3.82, 1.47) | 0.377 | 0.814 | -0.12 |
| | | High risk | 40.37 (1.67) | 40.47 (1.79) | 67 | 37 | 10.673 | 9.907 | -0.10 (3.00) | (-6.12, 5.92) | 0.973 | 0.973 | -0.01 | 0.57 (2.91) | (-5.29, 6.42) | 0.847 | 0.919 | 0.06 |
| | | Low/No risk - moderate risk | ..(.) | ..(.) | .. | .. | 10.673 | 9.907 | 1.21 (1.93) | (-2.66, 5.08) | 0.531 | 0.729 | 0.12 | 1.01 (1.60) | (-2.20, 4.22) | 0.530 | 0.839 | 0.10 |
| | | Low/No risk - high risk | ..(.) | ..(.) | .. | .. | 10.673 | 9.907 | 0.07 (3.36) | (-6.69, 6.82) | 0.985 | 0.985 | 0.01 | -0.73 (3.37) | (-7.50, 6.04) | 0.829 | 0.829 | -0.07 |
| | | Moderate risk - high risk | ..(.) | ..(.) | .. | .. | 10.673 | 9.907 | -1.15 (3.18) | (-7.54, 5.24) | 0.719 | 0.719 | -0.12 | -1.74 (3.14) | (-8.05, 4.57) | 0.582 | 0.582 | -0.18 |
| | School Contact and Communication | Low/No risk | 0.84 (0.02) | 0.78 (0.03) | 723 | 452 | 0.384 | 0.405 | 0.06 (0.03) | (-0.00, 0.12) | 0.058 | 0.349 | 0.14 | 0.05 (0.03) | (-0.01, 0.11) | 0.105 | 0.629 | 0.12 |
| | | Moderate risk | 0.80 (0.04) | 0.83 (0.04) | 161 | 114 | 0.384 | 0.405 | -0.03 (0.06) | (-0.15, 0.10) | 0.667 | 0.792 | -0.07 | -0.01 (0.06) | (-0.13, 0.12) | 0.934 | 0.934 | -0.01 |
| | | High risk | 0.67 (0.09) | 0.82 (0.07) | 80 | 45 | 0.384 | 0.405 | -0.15 (0.10) | (-0.35, 0.05) | 0.136 | 0.791 | -0.37 | -0.15 (0.11) | (-0.36, 0.06) | 0.161 | 0.565 | -0.37 |
| | | Low/No risk - moderate risk | ..(.) | ..(.)</ | | | | | | | | | | | | | | |

Exhibit 5: 2006 School Performance Assessment Domain Subgroup Impact Estimates for the 3-Year-Old Cohort (continued)

| Subgroup | Outcome | Subgroup Category | Mean Difference | | | | | | | | | | | | Regression-Adjusted Impact | | | | | |
|----------------------------|------------------------------------|-------------------|--------------------------------------|-----------------------------------|-----------------------|--------------------|--|-------------------------------------|----------------------------|-------------------------|---------|----------------------------|----------------------------|-------------------------|----------------------------|----------------------------|-------------|-------|--|--|
| | | | Head Start Group (Standard Error) | Control Group (Standard Error) | Head Start Group N | Control Group N | Head Start Group Standard Deviation | Control Group Standard Deviation | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Impact (Standard Error) | 95% Confidence Interval | p-value | Benjamini-Hochberg p-value | Effect Size | | | |
| Urbanicity (cont'd) | Social Studies and Science Ability | Not Urban | 0.88 (0.03) | 0.87 (0.05) | 180 | 120 | 0.378 | 0.350 | 0.01 (0.05) | (-0.08, 0.11) | 0.766 | 0.766 | 0.04 | 0.02 (0.05) | (-0.08, 0.13) | 0.650 | 0.975 | 0.07 | | |
| | | Urban | 0.81 (0.02) | 0.85 (0.02) | 795 | 490 | 0.378 | 0.350 | -0.04 (0.03) | (-0.10, 0.01) | 0.141 | 0.350 | -0.12 | -0.04 (0.03) | (-0.10, 0.02) | 0.191 | 0.398 | -0.11 | | |
| | | Not urban - urban | . (.) | . (.) | . | . | 0.378 | 0.350 | 0.06 (0.06) | (-0.06, 0.17) | 0.334 | 0.487 | 0.16 | 0.06 (0.06) | (-0.06, 0.19) | 0.316 | 0.570 | 0.18 | | |